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Mexican American educational aspirations and achievements were studied to determine why they tended to be considerably lower than those of Anglos and also to account for the sources of variation within each group, thus attempting to explain the particular contribution of school contexts of varying socioeconomic level and ethnic composition. A survey was taken of 6th, 9th, and 12th grade pupils in the predominantly Mexican American areas of the Los Angeles School District to determine educational patterns and to verify findings. Cumulative school records and questionnaires administered by the staff supplied the data. Academic ability differences between the 2 ethnic groups as measured by achievement tests were found to be the direct result of the teaching provided by the school. Further results indicated the following sources of influence on pupil performance: (1) family educational level was the most important for both groups, with family economic level contributing less; (2) pupil attitudes and values were important for both groups at all grade levels; (3) social context of the school contributed substantially to the performance of Mexican Americans at the elementary and junior high levels and minimally at the senior high level; and (4) English usage made a positive contribution for Mexican American pupils at all grade levels. (CM)

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EDUCATIONAL ACHIEVEMENT AND ASPIRATIONS OF MEXICAN-AMERICAN YOUTH IN A METROPOLITAN CONTEXT

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Center FOR THE
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University of California, Los Angeles, October 1968

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>
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>
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C. Wayne Gordon
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Center for the Study of Evaluation of Instructional Programs
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October 1968

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This release is a summary of the several studies cited in the report and represents selected data which will be further developed in subsequent publications. Responsibility for the report is shared by the authors.

C. Wayne Gordon
Project Director

INTRODUCTION

The Functions of the School

This report presents the results of an inquiry into the achievement and aspirations of Mexican-American youth from Los Angeles city schools of varying socioeconomic and ethnic contexts.[1] It is primarily concerned with two crucial and interlocking themes: first is the influence which the characteristics of individual pupils have on the educational effect of the school, and second is the manner in which the functioning of the educational system brings about outcomes which are peculiar to Mexican-American children.

The unique contribution of the educational system for this one group can be understood only with knowledge of the general functions of the school. In the American society, the elementary and secondary schools act primarily as agents of socialization and allocation. More specifically, the school functions to internalize in the pupils both the commitments and capacities for successful performance of their future adult roles to allocate these pupils as human resources within the role-structure of adult society.[2] The effectiveness of the socialization processes within the school determines the nature of the school career of each pupil. This, in turn, largely conditions his allocation.

Of interest here, are three contigents of the cohort which pass through the educational system: (1) the "drop-outs" who are allocated out of the system before completion, (2) those who complete school but do not go to college, and (3) those who complete school and enter college. The decisions for all three groups are finalized in the ninth grade when college-bound pupils enroll in college preparatory courses and all pupils are near the end of legally enforced school attendance. The basis for this decision is founded in the elementary school, however, since its most important criterion is that record of performance. Parsons suggests:

> These records are evaluated by teachers and principals, and there are few cases of entering the college preparatory course against their advice. It is, therefore, not stretching the evidence too far to say broadly that the primary selective process occurs through differential performance in elementary school, and that the 'seal' is put on it in junior high school.[3]

This selective process is particularly important to the educational effects on Mexican-Americans for whom scholastic achievement is relatively low at all levels and for whom "drop-out" is excessive and college-going is minimal. In Los Angeles City Schools, one third of the Mexican-Americans enrolled in secondary schools do not finish; in some schools less than one half finish.[4]

Both ascriptive and achievement factors influence the selection. In addition to the ascriptive influence of socio-economic status, the ethnic status Mexican-American provides an additional source. The influence of individual ability, which underlies achievement for all students, may affect Mexican-Americans differently since it is embedded in economic and cultural aspects of family status. For example, the notion of individual ability as a basis of achievement is of little use applied to pupils who do not possess linguistic skills adequate for participation in the activities in which their performances are judged. But this emphasis on the combined sources of ascription, which are negative by implication for Mexican-Americans, should not obscure the genuinely assortive nature of the school's selective process. Although the numbers are small, some Mexican-American pupils are high achievers; and they, like Anglos, although in different proportions, come from all socioeconomic levels.

The criteria for school achievement are heavily biased toward cognition of information, skills, and concepts associated with empirical knowledge and technical mastery. Since proficiency in both written and oral English is central to this achievement, prior socialization to the language of instruction underlies the selection of pupils on the basis of their academic performance. Clearly, Mexican-American pupils, many of whom are not introduced to English until entrance into the formal school, are necessarily selected in a manner different from Anglos.

Another set of criteria for school achievement, broadly termed the "moral" component, subsumes factors such as "deportment," "respect for the teacher," "cooperation," "work habits," and the like. These factors are inclined to be fused with the cognitive area in the evaluation process so that the "good" pupil and the "bright" pupil tend to be the same. The weak association between grades given by teachers and independent measures of achievement supports the suggestion that moral judgments of behavior are included in the evaluation of academic performance. Teachers wittingly or unwittingly "bootleg" a little more success in grading the compliant pupils who are otherwise equally capable. Grade rewards of pupils at all levels reflect this fusion, but proportions of each vary for Mexican-American and Anglo groups. This study inquires into the different ways in which the "moral" component of achievement functions for Mexican-American and for Anglo pupils as they advance from elementary through junior and senior high schools.

In addition to variations in the socialization and allocation functions by grade level and by ethnicity, there is variation by school context as indexed by its ethnic density and its socioeconomic status. Such functional differences among schools are reported by a number of inquiries into the influence of school context on a variety of educational effects.[5] A general statement of these findings is that the socioeconomic status of a school, since it embodies the shared norms and aspirations of the students, has an important effect on the educational aspirations and achievement of youth over and above that of family socioeconomic status or of individual ability. The most extensive of the studies concludes that the attributes of other pupils account for more variation in the achievement of minority pupils than any other single source.[6]

How this influence occurs, however, is not adequately explained. Given explanations tend to emphasize the aggregate aspirations and expectations of pupils and teachers. But, in addition, there are adaptations within the educational system in which the interaction and the activity of the participants become specialized toward certain aspects of the system such as learning achievement, control and management, integration, and public relations.

To seek a general understanding of the possible functional adaptations by school units, the educational processes and the effects of the school are examined within the comparative framework of a metropolitan-wide school organization in which the separate school units are constrained toward uniformity by the centralized administrative organization through common programs and relatively comparable financial support and personnel policies. However, these constraints for uniformity and standardized educational effect are partially offset by the influences of the distributive processes of the community to produce divergent effects.[7]

The school system of the larger community, then, is viewed as a social system which functions differently in the separate school units distributed over the geographic area. The sources of functional variation derive from those ecological processes which stratify the community and, consequently, the local schools along continua of race, ethnic composition, and socioeconomic status. It should be noted that although ethnic and racial densities tend to co-vary with socioeconomic status, they may vary independently under certain conditions.

The primary functions of the school, socialization and allocation, occur within the smaller social systems of classroom units. These are supported by the non-classroom units of the school, such as the central administration office, guidance services, and extracurricular programs, which lend uniformity to the school so that different climates or modal types develop. The assumption of constraint to a school-wide climate, however, does not preclude the possibility of substantial variation in emphasis among classroom units within the same school.[8]

The school tends to emphasize competitive selection in its evaluative practices that are symbolized by school marks. A pupil's school career consists of successive positions on the age-grade achievement ladder symbolized by his record of marks and achievement test scores. This record is considered to be an objective indicator of his education and of his social worth. The pupil, on the other hand, may view it as an indicator of his subjective worth; for in response to evaluation processes, he usually develops a perspective of himself and of the system in which he participates.

Pupil cumulative records indicate the qualitative differences in the performance of a cohort of pupils advancing through grade levels. It is one of the ingenious characteristics of the system that it can confer both distinction and marginal "pass" to its members and at the same time certify common success to pupils of unequal performance capacity by successive grade level placements. This characteristic of the system, through junior high at least, should not lead us to confuse the individual's "progress" through the system with measures of his performance capabilities.

The relationship between performance of pupils and their individual characteristics such as intelligence, socioeconomic status, and ethnicity have consistently been observed. Intelligence, as commonly measured in the classroom situation, is regarded in this study as a measure of educational achievement similar to that measured by other achievement tests. This treatment of I.Q. does not deny biological differences in capacity; it merely avoids the notion that intelligence tests measure that capacity and eliminates the necessity to claim that such tests are free of school and non-school sources of socialization.

In addition to the contribution of the individual characteristics of pupils to educational effects, the variations noted above in the aggregate socioeconomic, racial, and ethnic characteristics of pupils within the school create contexts which are further sources of influence on educational outcomes. For example, the percentage of Caucasian pupils in a school is usually an index of higher educational effort expended and of greater educational aspiration, both of which produce positive effects on school-wide educational behavior. These differences in behavior are closely related to the differences in socialization and allocation functions which vary with school contexts.

The practices by which the school allocates pupils are related to the status of the school. Schools with low status, that is with high ethnic density and low socioeconomic level, allocate largely through the use of ascriptive criteria. Conversely, schools with high status, or low ethnic density and higher socioeconomic level, allocate with great emphasis on socialization as measured by pupil achievement records. Inasmuch as the low status school finds the socialization function overtaxed but is still committed to the advancement of the cohort through the system, it makes ascriptive grants of success in the form of grades which are based not on performance, but on expediency. Sufficient ascription is granted to move the cohort to the next level, thereby satisfying both the requirements of the system and of the individual.

It should be noted that although variation in orientation to ascription and to achievement is represented in the assignment of grades, performance capacity, as measured by achievement test scores, varies directly with school socioeconomic status for all population groups, since the tests are standardized. It is the normative characteristics of grades and grading, not the objective measures of achievement, which are situational by school context.

As the tendency to assign grade success moves from ascription to performance from low to high status schools, so does the tendency to select pupils by competitive achievement increase by grade level. Emphasis on achievement criteria increases from the elementary grades through the junior and senior high schools, with the final grades of the system most controlled by performance criteria. The performance criteria of senior high also governs the allocation to preferred placements in higher educational systems or to choice positions in the labor force.

A major constraint on the educational process is the non-voluntary basis of participation--children are required by law to be in school at least through junior high level. The functionaries of the system do not have the alternative of rejecting or retaining them but must move them to the next level to make space for the cohort which follows. The process of advancing all pupils regardless of their achievements creates a discrepancy between expected and actual performance. Once the legal leaving age is attained and the non-voluntary condition no longer present, the marginal participant is jettisoned from the system under the euphemism of school "drop-out." He then assumes the onus of the school's inability to resolve his socialization deficit by having attached to him the stigma of failure and non-graduate.

The epidemic proportions of "drop-outs" among some socio-economic and ethnic categories of pupils should not obscure the long standing endemic sources of school alienation which contribute to their decisions to withdraw from participation. Although the system has ascribed success at the minimum level because of its legal obligation to provide educational service, it has not necessarily provided the individual with self-esteem or sufficient satisfactions to sustain his commitment to participate. The degree of degradation from this continuous process of evaluation is not uniform for all pupils, however, probably because not all of them place equal value on the system's most important goal of scholastic achievement. The impact of school sources of alienation is mitigated by integration into family and community solidarities, particularly for pupils in schools with high ethnic density.

With increased accent on competitive achievement through grade levels, the ascriptive basis of support and success are almost totally withdrawn at the senior high. By the eleventh grade marginal students, unable to invoke further ascriptive support, either depart or are resigned to remain but with problematic commitment to the system. Through parental control, either coercive or supportive, a substantial number of marginal achievers stay in school and become integrated into that part of the adolescent society in which grade achievement is of little importance to social status. Upon graduation, this contingent tends to be allocated into the labor force rather than into places in higher education.

One consequence of undersocialization is that it produces school contexts in which the aggregated deficits create a learning environment which further disadvantages the learners who share it, particularly those without compensating characteristics. The negative contribution of these contexts increases by grade level through the junior high school where the educational effect of the school context is greatest. At the senior high level the effect is the least, which may explain why studies of the effect of school context at that level have produced inconsistent findings. With the current assumptions about the processes of competitive selection, the senior high school appears to more nearly universalize its achievement outcomes and to standardize its products than either the junior high or the elementary schools. This characteristic is not attractive, however, since the result is achieved through selection and"drop-out" rather than by socialization processes between grades nine and twelve.

The Mexican-American Pupil

One recent study which orders a national sample of six racial and ethnic groups on a number of achievement tests ranks Mexican-American pupils fourth. The order is as follows: White, Orientals, American Indians, Mexican-Americans, Puerto Ricans, and Negroes, with substantial differences between Whites and all other groups, except Orientals.

About eighty-five percent of the Mexican-American pupils in this sample are below the Anglo average. For these pupils, as well as for other from non-English-speaking cultures, the deficit in reading comprehension is greatest through the junior high school. By ninth grade, the average deficit of the national Mexican-American sample is three and one-third years behind the average White sample of Northeastern United States. Also similar for all minority groups is the progressive increase in this deficit from grades one through twelve. Mexican-American verbal ability, which is two years behind Anglo ability at sixth grade, is three and one-half years behind by the twelfth grade.[9]

Evidence of the educational deficit of first grade Mexican-American children and of its progressive increase throughout their school career forces attention on its two major sources: One arises from family background which creates linguistic and cultural handicaps for achievement in the Anglo oriented school. The other is derived from the quality of the schooling which fails to provide them with the same learning opportunities provided by schools of different socioeconomic and ethnic contexts. If the school does not attempt, or if it fails in its attempt, to compensate for the initial disadvantage with which the Mexican-American child enters school, the child can expect to start his adult life with the handicap given him by the culture in which he resides, compounded by the foregone opportunities in schooling which this handicap has caused.

Related to the absolute and relative low levels of achievement of most Mexican-American pupils are their educational and occupational aspirations and their general attitudes and values. For these how they feel about themselves, their motivation in school, their aspiration for further education, and their concepts of personally desirable occupations play a special role in the school career. Arising partly from the home and partly from school experience, these are strong factors which can propel the child toward further education and achievement.

Evidence from the national sample indicates that relative to other racial and ethnic groups, Mexican-American pupils

1. rank high in their determination to stay in school, be good students, and attend school regularly,
2. plan in fewer numbers to attend college,
3. hold equally high occupational aspirations,
4. have lower self-concept than either Anglos or Negroes, and

5. express a considerably lower sense of control over the environment than do Anglos.[10]

These findings coupled with the relatively low achievement and the high school-leaving rate indicate the need for further study of the aspirations and motivations of Mexican-American pupils, their sources, and their relationship to achievement.

Purpose of the Study

This study proposes to answer two questions: First, why do Mexican-American achievement and aspirations tend to be lower than Anglo achievement and aspirations? Are the apparent differences between the two groups related to ethnicity, or do they derive from the disproportionate number of Mexican-Americans from a lower socioeconomic level with its characteristically lower educational achievement for all groups, including Anglos? If educational achievement and aspirations are related to ethnic factors independent from social class, what aspects of the social and cultural background account for the educational behavior of Mexican-American pupils?

The second question asks what contributes to the absolute levels of achievement and aspirations for both groups. For example, what factors are associated with variations in achievement for Mexican-Americans; equally, what factors are associated for Anglos? Further, are these factors common to both groups; if so, what is their relative importance to each? Is parent aspiration for the school success of their children associated with Mexican-American and Anglo achievement, and does it have the same influence for each?

The major purposes of this report, then, are to explain why Mexican-American aspirations and achievement tend to be considerably lower than that of the Anglos, to explain the sources of variation within each group, and among these sources, to explain the particular contribution of school contexts of varying socioeconomic level and ethnic composition.

The Sample

Data for this inquiry are provided by sixth, ninth, and twelfth grade pupils surveyed from the Los Angeles School District. The three age-grade levels are used first, to determine if different educational patterns exist within the different age groups and, second, to be able to verify the findings from any one of them. Individual schools, which are the basic sampling units, have been stratified by their ethnic density and their socioeconomic status. The original intention was to sample disproportionately from schools of the following types: (a) high status, predominantly Mexican-American, (b) high status, predominantly Anglo, (c) low status, predominantly Mexican-American, and (d) low status, predominantly Anglo. The objective was to obtain data which would permit comparative contextual analyses between school types as well as direct comparisons between Mexican-American and Anglo pupils within different social class groupings. A stratified sample is necessary to provide sufficient cases of both ethnic groups at all socioeconomic levels. Had this design been fulfilled, it would have been possible to generalize from the description of the Mexican-American pupils sampled to all Mexican-American pupils in Los Angeles at the three selected grade levels. Practical limitations in the execution of the sample design resulted in adaptations which somewhat limit the ability to make inferences about the larger population.[11]

The schools identified as sampling units serve the predominantly Mexican-American areas of the District. Since the Anglo pupils with whom the Mexican-Americans are compared also live in these areas, fewer differences between the achievement of the two ethnic groups are expected than if the sample were District-wide. This obtained sample by grade level, ethnicity, and socioeconomic is shown status in Table 1.

Several conditions precluded the selection of schools with independently varying ethnic composition and socioeconomic status: First, there are no secondary schools of higher social rank which are also predominantly Mexican-American. Second, random sampling within the four school types would have included schools with few Mexican-American pupils, thereby loading the sample with a disproportionate number of Anglo students. Consequently, the schools sampled are those in

TABLE 1

SAMPLE BY GRADE LEVEL, ETHNICITY, AND SOCIOECONOMIC STATUS

	Elementary		Junior		Senior	
	M-A	Anglo	M-A	Anglo	M-A	Anglo
Upper White Collar*	.3% (1)	8.3% (8)	2.3% (20)	14.4% (80)	2.1% (14)	16.8% (79)
Intermediate White Collar	2.1 (6)	10.4 (10)	3.6 (32)	13.0 (72)	4.1 (27)	13.6 (64)
Lower White Collar	8.0 (23)	18.7 (18)	7.7 (69)	14.0 (78)	10.1 (67)	9.6 (45)
Upper Blue Collar	19.9 (57)	27.1 (26)	21.7 (195)	31.4 (175)	23.4 (156)	34.3 (162)
Lower Blue Collar	62.2 (178)	31.2 (30)	50.3 (452)	23.9 (133)	50.1 (334)	21.8 (103)
Unknown	7.3 (21)	4.2 (4)	14.6 (131)	3.6 (20)	10.4 (69)	4.3 (20)
Total	102.5† (286)	99.9 (96)	100.2 (899)	100.3 (588)	100.2 (667)	100.4 (473)

*Occupational classifications are as follows:
Upper white collar - professional and managerial occupations, owners of large businesses.
Intermediate white collar - skilled non-manual occupations, owners of small or medium-sized businesses.
Lower white collar - semi-skilled non-manual occupations.
Upper blue collar - skilled manual occupations, foreman, self-employed craftsmen.
Lower blue collar - unskilled and semi-skilled manual occupations.

† Variation in percentage totals are due to rounding errors.

which ethnic density varies inversely with socioeconomic status, thereby producing contexts of three modal types:

Type 1. High ethnic, low socioeconomic status
Type 2. Middle ethnic, middle socioeconomic status
Type 3. Low ethnic, high socioeconomic status

The data for this study were supplied by cumulative school records which contain pupil achievement and selected background information and from questionnaires administered by the research staff to the sample of pupils. The usual care and procedures were observed to insure representative and reliable responses. Questionnaire items centered on the following topics: family background, pupil characteristics, use of Spanish language, educational materials in the home, educational aspirations, occupational aspirations, values and attitudes about school, family, strangers,self, and the future.

MEXICAN-AMERICAN AND ANGLO ACHIEVEMENT AND ASPIRATIONS

Differences in Achievement

Mexican-American pupils do less well than Anglo pupils on the two types of achievement measures. The differences between the two groups in both subject marks assigned by teachers and in scores on achievement tests are substantial.

Subject matter marks are presented in Tables 2 through 5 for secondary school pupils and in Tables 6 and 7 for elementary school pupils. The self-reported grades of junior and senior high school pupils, which include marks in all subjects, show that one fourth of the Mexican-American pupils compared to one half of the Anglo pupils receive marks of "B" or better. Conversely, more Mexican-American than Anglo pupils receive grades of "C" through "F" (Table 2).

The findings are similar for marks in social studies and in mathematics. Slightly more than one fourth of the junior and senior high Mexican-American pupils compared with slightly under one half of the Anglo pupils receive the marks of "A" and "B" in social studies (Table 3). Although differences between the two groups are not as pronounced in mathematics, they still exist to the detriment of Mexican-American pupils (Tables 4 and 5). At the elementary school level, again many more Anglo than Mexican-American pupils receive high grades in social studies and in arithmetic (Tables 6 and 7).

TABLE 2

SELF-REPORTED SCHOOL GRADES BY ETHNICITY
Junior High and Senior High Combined

	Mexican-American	Anglo	Total
Mostly A's	2%	8%	5%
Mostly A's and B's	12	19	15
Mostly B's	12	18	14
Mostly B's and C's	30	26	28
Mostly C's	22	16	19
Mostly C's and D's	16	9	14
Mostly D's	3	2	3
Mostly D's and F's	3	2	2
Total	100% (1522)	100% (1021)	100% (2543)

TABLE 3

RECORDED MARKS IN SOCIAL STUDIES BY ETHNICITY
Junior High and Senior High Combined

	Mexican-American	Anglo	Total
A	8%	20%	13%
B	20	28	23
C	40	32	37
D	27	17	23
F	5	3	4
Total	100% (1154)*	100% (738)	100% (1892)

*These data are based on slightly less than 3/4 of the total sample. For the remainder, parental permission allowing access to cumulative records was not granted.

TABLE 4

RECORDED MARKS IN MATHEMATICS BY ETHNICITY.
Junior High

	Mexican-American	Anglo	Total
A	5%	8%	6%
B	16	26	20
C	48	37	44
D	25	23	24
F	6	5	6
Total	100% (595)	100% (340)	100% (935)

TABLE 5

RECORDED MARKS IN MATHEMATICS BY ETHNICITY
Senior High

	Mexican-American	Anglo	Total
A	8%	14%	10%
B	18	30	22
C	33	32	33
D	37	23	33
F	4	1	3
Total	100% (383)	100% (163)	100% (546)

TABLE 6

RECORDED MARKS IN HISTORY BY ETHNICITY.

Elementary

	Mexican-American	Anglo	Total
A	3.7%	14.4%	6.2%
B	17.6	30.0	20.5
C	62.1	39.7	56.9
D	13.6	14.5	13.8
F	3.0	1.3	2.6
Total	100% (272)	100% (83)	100% (355)

TABLE 7

RECORDED MARKS IN ARITHMETIC BY ETHNICITY
Elementary

	Mexican-American	Anglo	Total
A	8.4%	13.7%	9.7%
B	19.0	22.7	19.9
C	45.3	37.4	43.4
D	23.7	21.6	23.1
F	3.6	4.6	3.8
Total	100% (274)	100% (88)	100% (362)

A similar pattern exists for pupil marks in work habits and in cooperation. A higher proportion of Anglo than Mexican-American pupils receive ratings of "excellent," and a higher proportion of Mexican-American than Anglo pupils receive less favorable ratings of "satisfactory" and "unsatisfactory." These data are presented in Tables 8, 9, and 10. It should be noted that ethnic differences in subject marks are larger than differences in marks for work habits and cooperation.

Also to be noted is the substantial overlap between the grades received by Mexican-American and by Anglo pupils. Many of the former receive marks of "A" and "B" as well as of "D" and "F," as do many of the latter. But taken as whole units, a higher proportion of Anglo than Mexican-American pupils get better school marks.

Similar patterns exist when objective tests are used as measures of school achievement. The findings for the three grade levels are presented in Tables 11 through 15. Although different tests are used at each grade level, each of them has been validated with national samples, which allows comparisons with national standards as well as comparisons with the school sample.

At the senior high level, the performance of Anglo pupils on all components of the Cooperative English Test is above national standards, while the performance of Mexican-American pupils is below these standards (Table 12). While both

TABLE 8

RECORDED MARKS IN WORK HABITS AND COOPERATION BY ETHNICITY
Junior High and Senior High Combined

	Work Habits			Cooperation		
	Mexican-American	Anglo	Total	Mexican-American	Anglo	Total
Excellent	35%	51%	41%	54%	62%	57%
Satisfactory	49	35	43	41	35	39
Unsatisfactory	16	14	16	5	3	4
Total	100% (1143)	100% (722)	100% (1865)	100% (1144)	100% (724)	100% (1868)

TABLE 9

RECORDED MARKS IN WORK HABITS BY ETHNICITY

Elementary

	Mexican-American	Anglo	Total
A	9.3%	15.0%	10.7%
B	27.5	35.6	29.4
C	43.5	32.2	40.8
D	17.2	17.2	17.2
F	2.5	0.0	1.9
Total	100% (280)	100% (87)	100% (367)

TABLE 10

RECORDED MARKS IN CITIZENSHIP BY ETHNICITY
Elementary

	Mexican-American	Anglo	Total
A	23.2%	29.8%	24.8%
B	26.4	27.6	26.7
C	38.2	29.9	36.2
D	9.0	12.7	9.8
F	3.2	0.0	2.5
Total	100% (280)	100% (87)	100% (367)

TABLE 11

ACHIEVEMENT TEST RESULTS IN ENGLISH BY ETHNICITY
Junior High

	Reading Vocabulary[*]		Reading Comprehension		Language Mechanical		Language Spelling		
	Mexican-American	Anglo	Mexican-American	Anglo	Mexican-American	Anglo	Mexican-American	Anglo	National Norms
Markedly above average[†]	0%	0%	0%	2%	0%	0%	1%	4%	4%
Above average	6	25	7	24	6	25	12	18	19
Average	37	53	38	54	47	55	32	52	54
Below average	34	17	39	16	25	15	27	19	19
Markedly below average	23	5	16	4	22	5	28	7	4
Total	100% (567)	100% (315)	100% (566)	100% (315)	100% (566)	100% (315)	100% (565)	100% (315)	100%

[*] These are components of the California Achievement Test.

[†] These categories are constructed on the basis of the normal curve and are usually referred to as stanines. An "average" performance (stanines 4, 5, and 6) should account for 54 percent of a normal population; an "above average" and "below average" performance (stanines 7 and 8, and 2 and 3) should account for 38 percent of a normal population, and a "markedly above average" and "markedly below average" performance (stanines 9 and 1) should account for the remaining eight percent of a normal population.

TABLE 12

ACHIEVEMENT TEST RESULTS IN ENGLISH BY ETHNICITY
Senior High

	Vocabulary*		Comprehension		Speed		English		
	Mexican-American	Anglo	Mexican-American	Anglo	Mexican-American	Anglo	Mexican-American	Anglo	National Norms
Markedly above average	1%	9%	0%	4%	1%	9%	0%	5%	4%
Above average	4	27	14	40	8	30	8	29	19
Average	64	58	56	46	48	50	52	50	54
Below average	27	5	23	7	35	8	32	15	19
Markedly below average	4	1	7	3	8	3	8	1	4
Total	100% (538)	100% (391)	100% (537)	100% (391)	100% (537)	100% (391)	100% (534)	100% (390)	100%

*These are components of the Cooperative English Test.

TABLE 13

ACHIEVEMENT TEST RESULTS IN MATHEMATICS BY ETHNICITY
Senior High and Junior High

	Senior High		Junior High				
	Iowa Quantitative		Arithmetic Reasoning*		Arithmetic Fundamentals*		
	Mexican-American	Anglo	Mexican-American	Anglo	Mexican-American	Anglo	National Norms
Markedly above average	1%	12%	0%	2%	0%	1%	4%
Above average	7	26	7	21	6	22	19
Average	55	49	36	54	37	53	54
Below average	36	13	38	19	34	16	19
Markedly below average	1	0	19	4	23	8	4
Total	100% (534)	100% (392)	100% (566)	100% (314)	100%	100% (314)	100%

*These are components of the California Achievement Test. The test used among high school students was the Iowa Quantitative, which gives a single score on quantitative achievement.

TABLE 14

ACHIEVEMENT TEST RESULTS IN ENGLISH BY ETHNICITY
Elementary

	Reading Vocabulary		Reading Comprehension		Language Mechanics		Language Spelling		National Norms
	MA	Anglo	MA	Anglo	MA	Anglo	MA	Anglo	
Markedly above average	0.8%	7.7%	0.4%	6.5%	0.4%	3.9%	0.4%	5.2%	4%
Above average	3.5	23.4	5.2	19.4	6.2	16.6	7.9	10.3	19
Average	36.7	45.5	43.8	53.3	43.4	42.6	38.1	57.5	54
Below average	40.0	20.8	36.0	18.2	37.0	24.3	34.7	19.3	19
Markedly below average	19.0	2.6	14.6	2.6	13.0	2.6	18.9	7.7	4
Total	100% (253)	100% (77)	100% (253)	100% (77)	100% (254)	100% (78)	100% (254)	100% (78)	100%

TABLE 15

ACHIEVEMENT TEST RESULTS IN MATHEMATICS BY ETHNICITY
Elementary

	Arithmetic Reasoning		Arithmetic Fundamentals		National Norms
	MA	Anglo	MA	Anglo	
Markedly above average	2.0%	6.5%	1.6%	2.6%	4%
Above average	13.3	34.6	13.0	23.0	19
Average	35.5	38.3	62.5	64.2	54
Below average	29.5	14.1	14.2	10.2	19
Markedly below average	19.7	6.5	8.7	0.0	4
Total	100% (254)	100% (78)	100% (254)	100% (78)	100%

Mexican-American and Anglo pupils tend to do best in English Comprehension, the performance of Mexican-American pupils is poorest in that part of the test that measures "speed." Differences in the test performance of the two ethnic groups are substantially larger than differences in their subject marks.

Table 11, which presents test results for junior high school pupils, shows a similar but more pronounced pattern. Anglo performance on the English components of the California Achievement Test is close to national standards, while Mexican-American performance is substantially below. Although the national standards dictate that slightly over half should be average on this test--with a quarter above and a quarter below--slightly over half of the Mexican-American junior high school pupils are below average, and about half of these are markedly below.

Unlike many studies which have found that the performance of ethnic groups is better in mathematics than in language, Table 13 shows that the patterns of performance in mathematics are similar to those in English. Among senior high school pupils, Anglo performance is higher than national standards while Mexican-American performance is lower than these standards. Among junior high school pupils, Anglo performance is about equal to national standards, but Mexican-American performance is substantially below. Tables 14 and 15, which present elementary school data, show even greater discrepancy between national standards and the performance of Mexican-American pupils on the English and arithmetic achievement tests.

Since there are no extremely large differences in achievement patterns revealed by the different components of tests, summary measures of these test performances will be used in order to reduce the complexity of later analysis and presentation.[12] These summary measures, shown in Table 16 and 17, continue to indicate substantial differences in performance of Mexican-American and Anglo pupils.

Performance on intelligence tests can also be examined. Early supporters of these tests contended that they measured innate or biologically given ability, but more recent interpretations view the I. Q. as an indicator of the cumulative effects of general learning experiences. Tables 18 and 19, which present the intelligence test results, reveal a pattern similar to that of achievement test results. Anglo pupils score close to, or slightly above, national standards; Mexican-American pupils score considerably below national standards, Thus, the ethnic differences in performance on intelligence tests are substantial.

In summary, the various measures of educational achievement show that the average achievement of Mexican-American pupils is substantially below the average achievement of Anglo pupils. On measures where national standards are available, Mexican-American achievement is also found to be substantially below those standards.

TABLE 16

MEAN ACHIEVEMENT TEST STANINES BY ETHNICITY
Junior High and Senior High Combined

	English Tests		Mathematics Tests		All Tests	
	Mexican-American	Anglo	Mexican-American	Anglo	Mexican-American	Anglo
7.0 to 9.0	3%	21%	6%	28%	3%	20%
5.0 to 6.9	23	46	25	39	23	46
3.0 to 4.9	41	24	42	24	42	25
1.0 to 2.9	33	9	27	9	32	9
Total	100% (1108)	100% (708)	100% (1100)	100% (706)	100% (1113)	100% (710)

TABLE 17

MEAN ACHIEVEMENT TEST STANINES BY ETHNICITY
Elementary

	English Tests		Math Tests		All Tests	
	MA	Anglo	MA	Anglo	MA	Anglo
7.0-9.0	2.8%	15.4%	10.7%	25.7%	2.0%	11.6%
5.0-6.9	17.1	37.2	25.9	38.4	24.2	33.7
3.0-4.9	34.7	30.7	39.4	26.9	35.5	35.8
1.0-2.9	45.4	16.7	24.0	9.0	38.3	12.9
Total	100% (256)	100% (78)	100% (254)	100% (78)	100% (256)	100% (78)

TABLE 18

INTELLIGENCE TEST RESULTS BY ETHNICITY
Senior High and Junior High

	Senior High Students*			Junior High Students			
	Mexican-American	Anglo	Total	Mexican-American	Anglo	Total	National Norms
Markedly above average	0%	8%	4%	0%	2%	1%	4%
Above average	2	17	8	3	20	9	19
Average	58	65	60	50	64	55	54
Below average	34	10	24	39	13	30	19
Markedly below average	6	0	4	8	1	5	4
Total	100% (536)	100% (392)	100% (928)	100% (571)	100% (323)	100% (894)	100%

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*Among senior high school students, the Henmon-Nelson Test was used; among junior high school students, the California Test of Mental Maturity was used.

TABLE 19

INTELLIGENCE TEST RESULTS BY ETHNICITY
Elementary

	Mexican-American	Anglo	Total
Markedly above average*	1.6%	7.4%	3.0%
Above average	6.8	25.6	11.3
Average	50.6	47.5	49.9
Below average	29.5	17.0	26.5
Markedly below average	11.5	2.5	9.3
Total	100% (261)	100% (82)	100% (343)

*Among elementary school pupils, the California Test of Mental Maturity was used.

Differences in Aspirations and Expectations

Similar ethnic differences exist in pupil aspirations and expectations. Tables 20 and 21 indicate that the majority of all pupils aspire to formal education after high school, and that very few aspire to "drop-out" before obtaining the high school diploma. However, the proportion of Anglo pupils who aspire to continued education is almost twice the proportion of Mexican-American pupils. Further, of those who do have post-high school aspirations, Mexican-Americans tend toward trade school and junior college, while Anglos tend toward four-year college and subsequent graduate training. Nevertheless, Mexican-American aspirations are substantially higher than public stereotypes would suggest since over two thirds aspire to to a post-high school education and almost a third aim as high or higher than four-year college. This suggests that attributing the Mexican-Americans' relatively low school achievement to lack of motivation is incorrect since this is incompatible with the findings presented here.

Information on the educational expectations of the secondary school pupils is presented in Table 22. In general, both Mexican-American and Anglo pupils have lower expectations than aspirations, but, even so, a majority expect to obtain some education after the high school diploma. Again, the proportion of Anglo pupils who expect to do so is almost double the proportion of Mexican-American pupils. Further, the

TABLE 20

EDUCATIONAL ASPIRATIONS BY ETHNICITY
Elementary

	Mexican-American	Anglo	Total
Quit school	2.5%	5.3%	3.2%
Finish high school	33.2	22.9	30.6
Go to school after high school	56.5	69.7	59.8
Don't know	7.8	2.1	6.4
	100%	100%	100%
	(283)	(96)	(379)

TABLE 21

EDUCATIONAL ASPIRATIONS BY ETHNICITY
Junior High and Senior High Combined

	Mexican-American	Anglo	Total
Go to graduate school after college	4%	12%	8%
Go to a four-year college	27	38	31
Go to junior college	20	18	19
Go to trade school	12	8	10
Graduate from high school	31	18	26
Quit school as soon as possible	1	1	1
Don't know	5	5	5
Total	100% (1551)	100% (1027)	100% (2578)

TABLE 22

EDUCATIONAL EXPECTATIONS BY ETHNICITY
Junior High and Senior High Combined

	Mexican-American	Anglo	Total
Go to graduate school after college	2%	7%	4%
Go to a four-year college	17	31	22
Go to junior college	28	32	30
Go to trade school	13	7	11
Graduate from high school	35	20	29
Quit school as soon as possible	1	0	0
Don't know	4	3	4
Total	100% (1550)	100% (1025)	100% (2575)

proportion of Anglo pupils who expect to attend a four-year college or graduate school is double the proportion of Mexican-American pupils. These ethnic differences in expectations are about the same as the differences in aspirations. As was the case with aspirations, the educational expectations of Mexican-American students are considerably higher than one would anticipate on the basis of widely disseminated stereotypes.

The occupational aspirations of all pupils are also very high, with almost nine out of ten pupils aiming for white collar rather than blue collar or manual work. Again, the aim of Anglo pupils is substantially higher than that of the Mexican-American pupils. Among those who aspire to white collar positions, Anglos tend to aim for the professional and managerial jobs while Mexican-American are more likely to aim for the lower rungs of the white collar ladder. Even so, well over half of the Mexican-American teenagers aspire to the skilled and professional white collar positions. These aspirations are shown in Table 23.

In summary, then, the aspirations and expectations of Mexican-American pupils are, on the average, lower than those of Anglo pupils who live in neighborhoods of Mexican-American concentration. Similarly, the average school achievement of the Mexican-Americans is lower than the average achievement of the Anglos. In absolute terms, the school achievement of

TABLE 23

OCCUPATIONAL ASPIRATIONS BY ETHNICITY
Junior High and Senior High Combined

	Mexican-American	Anglo	Total
Upper white collar	28%	44%	35%
Intermediate white collar	33	34	33
Lower white collar	18	9	14
Upper blue collar	10	8	9
Lower blue collar	4	1	3
Don't know	7	4	6
Total	100% (1363)	100% (977)	100% (2340)

Mexican-American children tends to be low and the school achievement of Anglo children average. The aspirations of both ethnic groups are very high with a substantial majority aspiring to further education after high school and to white collar, non-manual occupations.

Ethnic Differences in Achievement and Aspirations--Explained

As noted earlier, there is a substantial difference between Mexican-American and Anglo pupils in the marks received from teachers, Mexican-American pupils on the average receiving the lower grades. Table 24 indicates that this difference stems primarily from ethnic differences in ability as measured by performance on achievement tests. At each achievement level the relationship between ethnicity and school marks is noticeably decreased.

General academic ability, as similarly measured (by performance on achievement test) is also a powerful factor in explaining ethnic differences in aspirations. Table 25 indicates that the occupational aspirations of Mexican-American and Anglo pupils are very similar at each achievement level. The original, highly significant association between ethnicity and occupational aspirations is either substantially reduced or completely eliminated within groups having similar academic abilities.

TABLE 24

SELF-REPORTED GRADES AND ETHNICITY BY MEAN ACHIEVEMENT TEST STANINES
Junior High and Senior High Combined

	Mean Achievement Test Stanines													
	1.0-2.9		3.0-3.9		4.0-4.9		5.0-5.9		6.0-6.9		7.0-9.0		Total	
	M-A	A	M-A	A	M-A	A	M-A	A	M-A	A	M-A	A	M-A	A
Mostly A's	0%	0%	1%	1%	1%	5%	3%	3%	14%	13%	10%	23%	2%	9%
Mostly A's and B's	8	3	7	11	14	13	16	20	21	31	30	36	12	19
Mostly B's	9	8	11	12	13	20	20	22	14	20	24	19	12	18
Mostly B's and C's	31	32	28	31	30	31	32	29	26	20	23	11	30	26
Mostly C's	25	29	26	24	22	16	15	17	12	9	10	8	21	16
Mostly C's and D's	20	17	20	15	13	13	11	6	9	5	3	3	16	9
Mostly D's	3	8	5	4	4	1	2	2	4	1	0	0	4	2
Mostly D's and F's	4	3	2	2	3	1	1	1	0	1	0	0	3	1
Total	100% (344)	100% (60)	100% (234)	100% (75)	100% (231)	100% (101)	100% (152)	100% (161)	100% (93)	100% (166)	100% (30)	100% (139)	100% (1522)	100% (1021)
Chi-square	5.77		2.08		11.42		4.48		10.58		16.02		137.01	
Degrees of freedom	6		7		7		7		7		5		7	
Significance level	≤.50		≤.98		≤.20		≤.80		≤.20		≤.01		≤.001	

TABLE 25

OCCUPATIONAL ASPIRATIONS AND ETHNICITY BY MEAN ACHIEVEMENT TEST STANINES
Junior High and Senior High Combined

	Mean Achievement Test Stanines									
	1.0-2.9		3.0-4.9		5.0-6.9		7.0-9.0		Total	
	M-A	A	M-A	A	M-A	A	M-A	A	M-A	A
Upper white collar	26%	32%	25%	32%	41%	47%	65%	63%	30%	47%
Intermediate white collar	30	30	39	34	37	37	31	31	36	35
Lower white collar	26	24	22	16	15	9	4	1	19	9
Upper blue collar	13	8	11	16	6	6	0	5	11	8
Lower blue collar	5	6	3	2	1	1	0	0	4	1
Total	100% (249)	100% (50)	100% (412)	100% (158)	100% (225)	100% (304)	100% (26)	100% (130)	100% (1262)	100% (934)
Chi-square	1.36		8.49		5.29		1.82		101.11	
Degrees of freedom	4		4		4		3		4	
Significance level	≤.90		≤.10		≤.30		≤.70		≤.001	

The results are similar for educational aspirations, although not as clearcut. The effect of academic ability groupings is to reduce the differences between Mexican-American and Anglo pupils in educational aspirations, though not to eliminate them. In two of the four ability groupings, the association between ethnicity and educational aspirations persists; but in all four the association is smaller than in the original (Table 26).

Thus, general academic ability, as measured by achievement tests, is a powerful factor in explaining ethnic differences in school marks and in aspirations. Educational institutions classify individuals according to academic abilities. This classification not only affects school performance in terms of subject matter but also in terms of the status to which pupils aspire. As shown previously, there are substantial differences between Mexican-American and Anglo pupils in achievement test scores. These differences explain other ethnic differences which apply to schooling and also those which deal with statuses in the other societal institutions which pupils will enter after they leave school.

The question remains, however, why the ethnic groups differ so substantially in their academic abilities as measured by achievement tests. That is, differences in academic

TABLE 26

EDUCATIONAL ASPIRATIONS AND ETHNICITY BY MEAN ACHIEVEMENT TEST STANINES
Junior High and Senior High Combined

	Mean Achievement Test Stanines									
	1.0-2.9		3.0-4.9		5.0-6.9		7.0-9.0		Total	
	M-A	A	M-A	A	M-A	A	M-A	A	M-A	A
A 4-year college or graduate school	18%	33%	34%	35%	52%	58%	80%	84%	33%	53%
Trade school or junior college	35	30	38	40	36	25	7	8	33	27
Quit school or graduate from high school	47	37	28	25	12	17	13	8	34	20
Total	100% (334)	100% (57)	100% (442)	100% (165)	100% (239)	100% (317)	100% (30)	100% (132)	100% (1467)	100% (975)
Chi-square	7.51		0.40		10.03		1.07		108.03	
Degrees of freedom	2		2		2		2		2	
Significance level	≤.05		≤.90		≤.01		≤.70		≤.001	

ability explain differences in school grades and in aspirations, but why should there be such large ethnic differences in academic ability?

There is a vast amount of research on this question, indicating that academic ability is related to family status, the extent to which parents are highly educated, the amount of educational material in the home, the sibling order and sex of the pupil, and the attitudes that pupils have toward schooling. Data on these matters were analyzed but did not substantially reduce or eliminate the ethnic differences in academic ability measured by achievement tests.

The one attribute which does have substantial effect on the ethnic differences in academic ability is performance on intelligence tests. The differences between Mexican-American and Anglo pupils in such performance largely explain the ethnic differences in academic ability. Table 27 indicates that for junior high school pupils the mean performance of Mexican-Americans on achievement tests is similar to the mean performance of Anglos within the different levels of intelligence test performance. The pattern is similar, although not as clearcut, among senior high school pupils (Table 28) and among elementary school pupils (Table 29).

These findings do not help very much in the interpretative task, however, since intelligence tests tend to measure more general intellectual abilities and achievement tests tend to

TABLE 27

MEAN ACHIEVEMENT TEST STANINES AND ETHNICITY BY INTELLIGENCE TEST STANINES
Junior High

	Intelligence Test Stanines											
	1-3		4		5		6		7-9		Total	
	M-A	A	M-A	A	M-A	A	M-A	A	M-A	A	M-A	A
7.0-9.0	0%	0%	1%	0%	1%	2%	4%	7%	30%	42%	3%	16%
5.0-6.9	3	8	12	15	46	56	65	73	65	55	24	46
3.0-4.9	27	30	51	63	42	36	31	19	5	3	36	27
1.0-2.9	70	62	36	22	11	6	0	1	0	0	37	11
Total	100% (262)	100% (47)	100% (130)	100% (46)	100% (99)	100% (84)	100% (48)	100% (70)	100% (20)	100% (67)	100% (583)	100% (322)
Chi-square	3.55		3.70		3.42		3.32		0.99		137.41	
df	2		3		3		3		2		3	
Sig. level	≤.20		≤.30		≤.50		≤.50		≤.70		≤.001	

TABLE 28

MEAN ACHIEVEMENT TEST STANINES AND ETHNICITY BY INTELLIGENCE TEST STANINES
Senior High

	Intelligence Test Stanines											
	1-3		4		5		6		7-9		Total	
	M-A	A	M-A	A	M-A	A	M-A	A	M-A	A	M-A	A
7.0-9.0	0%	0%	0%	0%	2%	3%	32%	30%	67%	77%	4%	26%
5.0-6.9	3	5	21	48	62	70	65	66	33	23	25	47
3.0-4.9	51	55	72	51	34	27	3	4	0	0	50	23
1.0-2.9	46	40	7	1	2	0	0	0	0	0	21	4
Total	100% (214)	100% (40)	100% (176)	100% (71)	100% (103)	100% (101)	100% (31)	100% (81)	100% (12)	100% (97)	100% (544)	100% (394)
Chi-square	0.71		19.04		3.58		0.08		0.67		212.63	
df	2		2		3		2		1		3	
Sig. level	≤.70		≤.001		≤.50		≤.98		≤.50		≤.001	

TABLE 29

MEAN ACHIEVEMENT TEST STANINE BY ETHNICITY AND INTELLIGENCE TEST STANINES
Elementary

	1-3		4		5		6		7-9		Total	
	M-A	A	M-A	A	M-A	A	M-A	A	M-A	A	M-A	A
7.0-9.0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.3%	7.7%	19.1%	33.3%	2.0%	11.6%
5.0-6.9	2.8	18.8	26.1	21.5	30.8	45.5	50.0	61.5	76.1	50.0	24.2	39.7
3.0-4.9	29.9	25.0	39.1	78.5	53.8	54.5	40.0	23.1	4.8	16.7	35.5	35.9
1.0-2.9	67.3	56.2	34.8	0.0	15.4	0.0	6.7	7.7	0.0	0.0	38.3	12.8
Total	100% (107)	100% (16)	100% (46)	100% (14)	100% (52)	100% (11)	100% (30)	100% (13)	100% (21)	100% (24)	100% (256)	100% (78)
Chi-square	7.63		8.42		2.28		1.35		3.52		35.32	
df	2		2		2		3		2		3	
Sig. level	≤.05		≤.02		≤.50		≤.80		≤.20		≤.001	

measure more specific knowledge of subject. Knowing that the ethnic differences in the former explain the ethnic differences in the latter merely moves the question to a different level of inquiry.

One other observation may throw light on this issue. The analysis indicates that the ethnic differences in school achievement and aspirations can not be accounted for by forces which essentially derive from outside the school system. The most powerful factor--academic ability as measured by achievement tests--is the direct result of the teaching provided by the school. Performance on intelligence tests depends to some extent on learning experiences which take place outside the school system, but it is also influenced by formal educational training. These two types of test performance, on achievement tests and on intelligence tests, are highly correlated in actual fact; they may jointly be taken to be indicators of the prior and concurrent training efforts of the school system.

Perhaps the more precise statement would be that by their emphasis on academic achievement as defined by the educational institution, the schools both amplify and channel the differences that would ordinarily exist between cultural groups. Thus, performance on achievement tests, which is the indicator of the classifications made by the school on academic grounds, reflects both the subcultural differences that exist prior to to a child's entrance into the school system and the subsequent cumulative effect of the training provided by that system.

FACTORS RELATED TO ACHIEVEMENT

Performance on achievement tests is associated with a wide variety of out-of-school factors. Although few of them affect the ethnic differences in achievement scores to a substantial degree, it may be useful to examine some of these associated attributes to get a clearer picture of how high achievers and low achievers differ. This section reports the results of a cross-tabular inquiry into the differences between reading comprehension achievement scores, controlling for a variety of factors that are sometimes associated with achievement.

Family Status

Most frequently related to school success is the socioeconomic status of the family. With other relevant factors controlled SES is universally shown to be positive for achievement; that is, the higher the family status, the better the school performance. To test whether superior Anglo achievement is due to the generally elevated prestige and the associated life styles of Anglo families, the mean reading comprehension stanine scores for Mexican-American and Anglo pupils from blue and from white collar homes are examined separately. With these socioeconomic controls, the disparity between the two ethnic groups is reduced but continues to be statistically significant (Table 30).

TABLE 30

MEAN READING COMPREHENSION STANINE SCORES BY ETHNICITY AND SELECTED VARIABLES
Secondary Schools

Uncontrolled[1]	Anglo	Mexican-American
Junior High	5.14	3.53*
Senior High	5.92	4.34*
Socioeconomic Status		
Blue Collar		
Junior High	4.90	3.58*
Senior High	5.57	4.34*
White Collar		
Junior High	5.53	4.15*
Senior High	6.43	4.70*
Parents' Education		
Father		
High school graduation or more		
Junior High	5.53	4.48*
Senior High	6.18	4.92*
Some high school or less		
Junior High	4.86	4.05*
Senior High	5.62	4.47*
Mother		
High school graduation or more		
Junior High	5.52	4.38*
Senior High	6.21	4.99*
Some high school or less		
Junior High	4.85	4.14*
Senior High	5.34	4.49*
Home Language-English		
Blue Collar		
Junior High	4.90	4.13*
Senior High	5.57	4.60*
White Collar		
Junior High	5.53	5.05
Senior High	6.43	4.88*
Sex		
Male		
Blue Collar		
Junior High	4.91	3.54*
Senior High	5.51	4.42*

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[1] Includes cases for which there are no socioeconomic data.

* $p < .05$ one-tailed t-test of significance for difference of Anglo and Mexican-American mean achievement.

TABLE 30 continued

MEAN READING COMPREHENSION STANINE SCORES

Sex	Anglo	Mexican-American
Male		
White Collar		
Junior High	5.32	4.14*
Senior High	6.51	4.64*
Female		
Blue Collar		
Junior High	4.88	3.62*
Senior High	5.64	4.27*
White Collar		
Junior High	5.77	4.17*
Senior High	6.37	4.78*
School Type		
Low Socioeconomic		
Blue Collar		
Junior High	4.80	3.24*
Senior High	†	4.28
White Collar		
Junior High	4.60	3.56
Senior High	†	4.48
Middle Socioeconomic		
Blue Collar		
Junior High	4.95	4.25*
Senior High	5.56	4.36*
White Collar		
Junior High	5.59	5.50
Senior High	6.20	4.81*

* $p<.05$ one-tailed t-test of significance for difference of Anglo and Mexican-American mean achievement.
† Insufficient cases for analysis.

The impact of family status is greater on the performance of Anglo than on Mexican-American pupils. Although differences within both ethnic classifications are statistically significant, those between the blue and white collar pupils from Anglo families are larger than those between blue and white collar pupils from Mexican-American families. This situation is most apparent at the senior high level where the improvement in reading comprehension means due to socioeconomic controls is twice as great for Anglos than for Mexican-Americans.

Educational Level of Parents

The adequacy of socioeconomic measures based on occupational prestige as a way of characterizing subpopulations within the larger society is sometimes questioned since the sub-populations themselves may ascribe different order to the occupations being ranked. For this reason comparisons are made under the control of parents' education, another correlate of family status, employing separately the educational attainment of father and of mother. Although these controls also reduce ethnic differences in achievement, the Mexican-American and Anglo children of parents with comparable years of schooling do not have comparable stanine scores. These differences remain statistically significant (Table 30).

From previous research into the relative influence of the educational level of mother and father on pupil performance, it might be expected that the attainment of the mother has the greater effect. The data for the senior high sample support this expectation: the impact of the mother's education on reading achievement scores is larger than that of the father's for both ethnic groups (Table 31). This relationship is greater, as is the relationship of socioeconomic status based on the father's occupation reported above, for the Anglo sample. The pattern of relative contribution of parents' education is different, however, at the junior high level where the mother and father contribute equally to the achievement of Anglo pupils and where the father contributes most to the achievement of the Mexican-American pupils (Table 31). It appears that for both Mexican-Americans and for Anglos, the family life style, which is largely determined by the educational and occupational level of the father, supplies the minimal level of achievement. For those who continue past the age of legal school-leaving, the mother's unique contribution to the socialization processes is evident. The influence which the educated mother has upon pupil success is not manifested in achievement scores until late in the public school career.

Language of the Home

The predominant language of the home is an important variable for several reasons: First is the obvious difference it makes in the pupil's actual facility in the language of instruction. There is evidence which suggests that, with rare exception, the bilingual person never attains fluency in languages acquired after early childhood equal to that of the language first learned.

TABLE 31

MEAN READING COMPREHENSION STANINE SCORES BY PARENTS' EDUCATION
Secondary School

	Anglo			Mexican-American		
	Some high school or less	High school graduation or more	Difference	Some high school or less	High school graduation or more	Difference
Junior High						
Mother	4.85	5.52	.67	4.14	4.38	.24
Father	4.86	5.53	.67	4.05	4.48	.43
Senior High						
Mother	5.34	6.21	.87	4.49	4.99	.50
Father	5.62	6.18	.56	4.47	4.92	.45

Since English is the second tongue for many Mexican-American children, it is expected that this factor contributes to low achievement test scores.

Beyond its relationship with technical and vocabulary skills, the language used in the home is also an indicator of the cultural orientation of the family. Those Mexican-American families that converse in English at least have begun the processes of acculturation of the values of the larger society. It will be shown that the internalization of some of these values is closely associated to school success for both Anglo and Mexican-American pupils.

To inquire into the effects of home language, Mexican-American pupils from predominantly English-speaking homes are compared with Anglo pupils of comparable socioeconomic background (Table 32). Removal of Mexican-American pupils for whom Spanish is the predominant home language reduces the ethnic differences in reading comprehension stanine scores for both blue and white collar pupils, with the result that ethnic differences in achievement for junior high school children of white collar parents become minimal. The reduction of mean differences is not as great at the senior high level, however, probably because those children from Spanish-speaking families who complete secondary school have more adequately developed their English language skills.

TABLE 32

MEAN READING COMPREHENSION STANINE SCORES BY ETHNICITY, HOME LANGUAGE, AND SOCIOECONOMIC STATUS

Secondary School

	Anglo	Mexican-American		
		Home Language		
		English	Spanish	Total[1]
Blue Collar				
Junior High	4.90	4.13*	3.90	4.04†
Senior High	5.57	4.60*	4.31	4.49†
White Collar				
Junior High	5.53	5.05	3.95	4.71†
Senior High	6.40	4.88*	4.71	4.82†

1 Total includes only those cases for whom knowledge of home language is available.

* $p \leq .05$ one-tailed t-test of significance for difference of means for Anglos and Mexican-Americans from English-speaking homes.

† $p \leq .05$ one-tailed t-test of significance for difference of means for Anglos and total Mexican-Americans.

The extent of the differences in achievement between Mexican-American children from English-speaking and from Spanish-speaking families is also of interest. Although differences in reading comprehension and in mathematics achievement between the two groups are not great, the I.Q. scores of children from Engligh-speaking homes are significantly higher (Table 33). In spite of the fact that measures of intelligence are positively correlated with measures of achievement (between .6 and .7 for the two ethnic sample), I.Q. provides more rigorous evaluation of language-related skills. It is manifest that children from Spanish-speaking homes are not as equipped to profit from their school experience, but the extent of this disadvantage is not yet clear.[13]

Sex Differences

Another area for exploration of differential achievement is that of sex since variation in school marks and achievement test scores between boys and girls are frequently observed. Increasingly, these differences are said to to be due not to inherent sex-linked characteristics but to socialization practices in which boys and girls are given dissimilar treatment and, consequently, develop dissimilar attitudes. For example, Wilson reports that the grade school girls he studied are preoccupied with the form of their work and with doing what is considered correct, whereas the boys he studied are involved with the "how"

TABLE 33

MEAN STANINE SCORES FOR MEXICAN-AMERICAN PUPILS BY HOME LANGUAGE AND SOCIOECONOMIC STATUS
Secondary School

	Blue Collar		White Collar	
Home Language--	English	Spanish	English	Spanish
Reading Comprehension				
Junior High	4.13	3.90	5.05	3.95*
Senior High	4.60	4.31	4.88	4.71
Mathematics Achievement				
Junior High	3.84	3.91	4.50	4.24
Senior High	4.37	4.14	4.59	4.48
I.Q.				
Junior High	4.23	3.79*	4.73	3.85*
Senior High	4.09	3.55*	4.36	3.81*

* $p \leq .05$ one-tailed t-test of significance for difference of means between English and Spanish home language.

and the "why" of it.[14] He attributes these differences in part to the greater autonomy permitted boys and the higher accountability demanded of girls. Wilson compared the school performances of boys and girls who are similar on his autonomy measures and reports that the sex-linked discrepancies in achievement disappear. Without these controls, however, girls receive better marks in spelling and higher scores on tests of arithmetic fundamentals.

Since the relationship of sex to achievement is thought by many to be due to different socialization, it is of interest to compare the two ethnic subpopulations controlling for sex as well as for the usual control for socioeconomic status (Table 30). The separate comparisons of reading comprehension means for boys and for girls do not alter the relationship between the Mexican-American and Anglo scores. The differences in achievement of the two ethnic groups by sex are similar to the differences with socioeconomic controls alone.

The mean achievement of boys and girls within each subpopulation are also contrasted (Table 34). Differences in reading comprehension are not appreciable, nor are differences in mathematics for Mexican-American pupils and Anglo pupils from blue collar families. However, in senior high mathematics for all groups and in junior high mathematics for white collar Anglos, boys score significantly higher than their female classmates.

TABLE 34

MEAN STANINE SCORES FOR READING COMPREHENSION AND MATHEMATICS ACHIEVEMENT BY SOCIOECONOMIC STATUS AND SEX
Secondary School

	Reading Comprehension		Mathematics Achievement	
	boys	girls	boys	girls
Junior High School				
Blue Collar				
Mexican-American	3.54	3.62	3.50	3.31
Anglo	4.91	4.88	4.84	4.72
White Collar				
Mexican-American	4.14	4.17	3.91	3.87
Anglo	5.32	5.77	4.94	5.55*
Senior High School				
Blue Collar				
Mexican-American	4.42	4.27	4.65	3.84*
Anglo	5.51	5.64	5.64	4.87*
White Collar				
Mexican-American	4.64	4.78	4.70	4.11
Anglo	6.51	6.37	7.16	5.97*

* $p \leq .05$, two-tailed t-test of significance.

From this analysis of achievement by sex, one can conclude that if there are differential socialization practices for boys and for girls which are related to school performance, they are present for Mexican-American and Anglo pupils alike.

Social Context of the School and Reading Comprehension

When the reading comprehension stanine means of the two ethnic groups are examined under controls for school social context and pupil socioeconomic status, the differences in achievement between Mexican-American and Anglo pupils in the elementary and in the junior high schools are substantially reduced (Table 35). For one of these categories--junior high pupils from white collar homes--the ethnic differences in achievement are eliminated. But even in the integrated senior high school, where differences between Mexican-American and Anglo achievement continue to be large, the differences are not as large as those in the segregated high school.

Another way of illustrating the variation in test performance of Mexican-American pupils by school social context is to compare their achievement means with one another (Table 36). With family background controlled, the improvement in mean stanines for pupils in the integrated, middle socioeconomic school over the pupils in the segregated, low socioeconomic school is significant at the junior high and at the elementary levels. This improvement also is present, but to a lesser degree, for white collar pupils at the senior high level.

TABLE 35

MEAN READING COMPREHENSION STANINE SCORES BY SOCIAL CONTEXT OF THE SCHOOL, PUPIL SOCIOECONOMIC STATUS, AND GRADE-LEVEL

	All Schools			Integrated, Middle SES School		
	Anglo	MA	Difference	Anglo	MA	Difference
Elementary School						
Blue Collar	5.09	3.44	1.65	4.41	3.57	.84
White Collar	5.57	4.04	1.53	4.86	4.19	.67
Junior High School						
Blue Collar	4.90	3.58	1.32	4.95	4.25	.70
White Collar	5.53	4.15	1.38	5.59	5.50	.09
Senior High School						
Blue Collar	5.57	4.34	1.23	5.56	4.36	1.20
White Collar	6.43	4.70	1.73	6.20	4.81	1.39

TABLE 36

MEAN READING COMPREHENSION STANINE SCORES FOR MEXICAN-AMERICAN PUPILS BY SOCIAL CONTEXT OF THE SCHOOL, PUPIL SOCIOECONOMIC STATUS, AND GRADE-LEVEL

	School Context		
	Integrated, Middle SES	Segregated, Low SES	Difference
Elementary School			
Blue Collar	3.57	2.97	.60*
White Collar	4.19	3.43	.76
Junior High School			
Blue Collar	4.25	3.24	1.01*
White Collar	5.50	3.56	1.94*
Senior High School			
Blue Collar	4.36	4.28	.08
White Collar	4.81	4.48	.30

* $p \leq .05$, one-tailed t-test of significance for difference of mean achievement.

Two questions remain about the effect of school context on achievement of Mexican-American pupils: First, do differences in background factors between the pupils from the two school types account for the variation in achievement? Second, do similar background factors have similar effects on pupils enrolled in both school types? Although the comparisons of achievement means are between pupils of similar socioeconomic status, the possibility still exists that factors other than the the father's occupational level differentiate them. Accordingly, the Mexican-American samples from the segregated and the integrated junior high schools are contrasted on eleven variables (Table 37). Of these factors, only two occur with significantly greater frequency in the integrated, middle socioeconomic status school: "four or more siblings" and "father lives at home." Neither explains the higher Mexican-American achievement in the integrated, middle socioeconomic school. Though the father's presence in the home is slightly positive for achievement, the association does not approach the significance of the negative relationship of family size to achievement (Table 38). In the integrated schools, children from large families where the father is present are as disadvantaged as those from smaller families where the father is absent (Table 38).

In spite of the fact that there are few differences in the background factors of Mexican-American children in the two types of schools, the environment provided in a heterogeneous, high

TABLE 37

MEXICAN-AMERICAN PUPILS BY SOCIAL CONTEXT OF THE SCHOOL AND SELECTED VARIABLES
Junior High

	School Content	
	Segregated, Low SES	Integregated, Middle SES
Blue Collar	85.4%	87.5%
Mother high school graduate	33.9	28.3
Father high school graduate	39.6	41.3
Home language--Spanish	36.7	36.9
Father lives at home	77.2	90.8*
Mother lives at home	87.9	93.8
Four or more siblings	55.7	70.8*
Lived in Los Angeles less than five years	18.1	13.6
Friends speak Spanish	56.8	58.7
Know college graduates	45.8	44.4
Parents want pupil to go beyond high school education	74.0	63.5

* $p \leq .05$, x^2 test of significance with four-cell contingency table.

TABLE 38

MEAN READING COMPREHENSION STANINE SCORES FOR MEXICAN-AMERICAN PUPILS BY FATHER IN THE HOME, NUMBER OF SIBLINGS, AND SCHOOL SOCIAL CONTEXT

Junior High

	School Context					
	Segregated Low SES			Integrated Middle SES		
Father lives at home--Yes	No	Total*	Yes	No	Total*
Number of siblings						
Four or more	3.58	3.07	3.47	4.02	3.75	4.00
Less than four	3.93	3.61	3.85	5.59	4.00	5.42
Total	3.73	3.35		4.47	3.85	

* $p \leq .05$, one tailed t-test of significance for difference of means of pupils with less than four and four or more siblings for both school contexts.

socioeconomic status student body creates a school climate which is instrumental to academic achievement. Although they are not appreciably different for the Mexican-American's socioeconomic status, father's education and parent's aspirations for pupil education make greater impact on achievement in the integrated than in the segregated schools (Table 39).

In addition, pupil affectivity orientations or value orientations--shown below to be related to achievement of all pupils--are more powerfully related to achievement of Mexican-American pupils in the integrated than in the segregated school (Table 39). Furthermore, of these three orientations--Faith in Human Nature, a Futuristic Orientation, and Independence from Family Authority--the first two occur with higher frequency in the integrated school (Table 40). They are found to a greater degree, not only among the Mexican-American pupils but also among all pupils in this school type. Apparently the values supplied by many of the pupils in the integrated school make the school a vehicle for an affective orientation which constrains the Mexican-American toward academic success. In addition, the enriched background of many of its pupils supplies intellectual stimulation to peers and teachers alike thereby creating greater learning opportunities for Mexican-Americans.

Social Context of the School and School Marks

When standardized tests are used for comparison, the mean achievement of Mexican-American pupils tends to be higher in

TABLE 39

MEAN READING COMPREHENSION STANINE SCORES FOR MEXICAN-AMERICAN PUPILS BY SELECTED VARIABLES AND SOCIAL CONTEXT OF THE SCHOOL

Junior High

	School Context	
	Segregated, Low SES	Integrated, Middle SES
Family Socioeconomic Status		
White Collar	3.56	5.50
Blue Collar	3.24	4.25
Father's Education		
Completed high school or more	4.14	4.95
Less than high school	3.80	4.11
Parents' Aspirations for Pupil Education		
Beyond high school	3.37	4.78
High school completion or less	2.50	3.70
Faith in Human Nature		
High	3.71	5.15
Low	2.95	3.90
Futuristic Orientation		
High	3.49	5.31
Low	3.07	4.12
Independence from Family Authority		
High	3.25	4.97
Low	3.32	4.09

TABLE 40

SELECTED AFFECTIVITY ORIENTATIONS FOR MEXICAN-AMERICAN AND ALL PUPILS BY SOCIAL CONTEXT OF THE SCHOOL AND BY PUPIL SOCIOECONOMIC STATUS

Junior High

	School Context					
	Segregated, Low SES			Integrated, Middle SES		
	MA			MA		
	BC	WC	All Pupils	BC	WC	All Pupils
Faith in Human Nature						
High	25%	35%	28%	38%	71%	57%
Low	75	65	72	62	29	43
Futuristic Orientation						
High	18	24	20	22	43	31
Low	82	76	80	78	57	69

integrated than in segregated schools. However, when school marks are used for comparison, there are little or no differences in achievement of pupils. The school marks received by Mexican-American pupils for social studies and for mathematics are similar at all three school levels (Table 41). This discrepancy between the two evaluative criteria--the universalistic measures and the local evaluation by the teacher--indicates large variation in the grading standards of schools in different social contexts.

Individual school units are forced to adopt their own criteria of pupil success when they have a large number of pupils who do not achieve at the national norms. But in any event it is not expected that teachers rely entirely upon universalistic standards for granting marks, particularly at the lower grade levels and in the lower socioeconomic schools. The power to manipulate pupil rewards by granting satisfactory and unsatisfactory marks greatly aids the teacher in obtaining pupil compliance. Also, school marks affect the attitudes and values of pupils; the importance of satisfactory marks as a source of security, motivation, and self-esteem should not be minimized. Classroom control and individual well-being notwithstanding, the educational system itself requires the ascription of satisfactory marks to keep the cohort of pupils moving through it. However, satisfactory marks also obscure the lack of success of the entire system in reaching recognized levels of academic achievement.

TABLE 41

MEAN SCHOOL MARKS IN SOCIAL STUDIES AND MATHEMATICS FOR MEXICAN-AMERICAN PUPILS BY SOCIAL CONTEXT OF THE SCHOOL AND PUPIL SOCIOECONOMIC STATUS
Elementary and Secondary Schools

	School Social Context		
	Integrated Middle SES	Segregated Low SES	Difference †
Elementary School			
Civics*			
Blue Collar	3.13	3.04	.09
White Collar	3.00	3.12	-.12
Geography			
Blue Collar	3.12	3.09	.03
White Collar	3.18	2.88	.30
History			
Blue Collar	3.10	3.02	.08
White Collar	3.06	2.88	.18
Arithmetic			
Blue Collar	3.03	3.14	-.11
White Collar	3.18	2.88	.30
Junior High School			
Social Studies			
Blue Collar	3.87	3.19	.68
White Collar	4.28	3.12	1.16
Mathematics			
Blue Collar	3.04	2.83	.21
White Collar	3.00	2.96	.04
Senior High School			
Social Studies			
Blue Collar	2.71	2.82	-.11
White Collar	2.78	2.98	-.20
Mathematics			
Blue Collar	3.08	2.84	.24
White Collar	3.00	2.82	.18

* School marks are coded as follows: 5, excellent; 4, good; 3, average; 2, poor; 1, failure.

† No differences between means by school social context are statistically significant.

How ascription actually varies by school type and school level is presented in Table 42, where the discrepancies between the social studies marks granted and the marks expected from the reading comprehension stanine scores are reported. Social studies rather than mathematics achievement is used for comparison because it better reflects the nonobjective criteria employed by teachers.

In the senior high school half of the pupils are evaluated at expected level and the remainder are divided equally between the other expected levels: "above" and "below." This pattern is consistent in each of the school types. Of greatest interest at this level is the variation in marks by ethnicity (Table 43). As the proportion of Anglo and high socioeconomic status pupils rises the proportion of Mexican-Americans with below expected marks increases, and the proportion having above expected marks decreases. On the other hand, the distribution of Anglo marks by school type does not greatly deviate from the overall school pattern.

These findings are interpreted as a strain toward universalistic criteria in the evaluation of achievement. Because high school graduates have visibility in other social institutions, the high school tends to grant marks on the basis of national norms. The strain is most apparent in schools with the highest socioeconomic status student body where most pupils are expected to continue their education. In schools of this type, the positive ascriptive component of marks is deflated for all

TABLE 42

DISCREPANCY BETWEEN EXPECTED AND ACHIEVED SOCIAL STUDIES MARKS BY SOCIAL CONTEXT OF THE SCHOOL
Elementary and Secondary Schools

Social Studies Marks*	School Social Context M-A Low SES	 Integrated Middle SES	 Anglo High SES	Total
Elementary School				
Above expected	50%	33%	25%	34%
Expected	43	57	50	55
Below expected	7	10	25	11
	(101)	(238)	(164)	(503)
Junior High School				
Above expected	64%	55%	40%	53%
Expected	25	33	47	35
Below expected	11	12	13	12
	(374)	(117)	(345)	(836)
Senior High School				
Above expected	30%	25%	24%	27%
Expected	46	47	48	46
Below expected	24	28	28	27
	(249)	(414)	(165)	(928)

* Expected social studies marks are based on pupil performance on the reading comprehension test. Pupils with high stanine scores (7 to 9) are expected to get A's and B's, those with average scores (4 to 6) are expected to get C's, and those with low scores (1 to 3) are expected to get D's and F's.

TABLE 43

DISCREPANCY BETWEEN EXPECTED AND ACHIEVED SOCIAL STUDIES MARKS BY SOCIAL CONTEXT OF THE SCHOOL ETHNICITY, AND SOCIOECONOMIC STATUS
Elementary and Secondary Schools

	School Social Context															
Social Studies	Low SES					Middle SES					High SES					
	MA		Anglo			MA		Anglo			MA		Anglo			
Marks*	BC	WC	BC	WC	TOT	BC	WC	BC	WC	TOT	BC	WC	BC	WC	TOT	TOTAL
Elementary																
Above expected	44%	59%	-	-	50%	34%	32%	47%	38%	33%	25%	25%	29%	17%	25%	34%
Expected	44	35	-	-	43	56	68	53	50	57	65	60	47	67	50	55
Below expected	8	6	-	-	7	10	-	-	12	10	10	25	24	16	25	11
	(64)	(17)	(0)	(0)	(101)	(86)	(25)	(19)	(8)	(238)	(20)	(4)	(38)	(6)	(164)	(503)
Junior																
Above expected	65%	60%	60%	60%	64%	69%	71%	44%	42%	55%	40%	39%	44%	34%	40%	53%
Expected	24	31	20	20	25	24	29	31	49	33	43	48	46	53	57	35
Below expected	11	9	20	20	11	7	-	25	9	12	17	13	10	13	13	12
	(307)	(57)	(5)	(5)	(374)	(45)	(7)	(32)	(33)	(117)	(89)	(23)	(136)	(97)	(345)	(836)
Senior																
Above expected	30%	28%	25%	100%	30%	23%	30%	24%	27%	25%	15%	-	31%	24%	24%	27%
Expected	44	54	63	-	46	44	39	51	45	47	31	29	38	57	48	46
Below expected	26	18	12	-	24	33	31	25	28	28	54	71	31	19	28	27
	(271)	(68)	(8)	(2)	(349)	(143)	(23)	(166)	(82)	(414)	(13)	(7)	(52)	(93)	(165)	(928)

* Expected social studies marks are based on pupil performance on the reading comprehension test. Pupils with high stanine scores (7 to 9) are expected to get A's and B's, those with average scores (4 to 6) are expected to get C's, and those with low scores (4 to 6) are expected to get C's, and those with low scores (1 to 3) are expected to get D's

pupils, but for Mexican-Americans, negative ascription is substituted. It appears that the school demands unequivocal evidence from minority pupils of adequate academic preparation to move into higher education. At none of the other school levels does negative ascription approach that of the high socioeconomic status senior high schools.

In contrast, at the junior high level more than half of the pupils attain above expected marks (Table 43). Again there is greater variation among the school types with the proportion of above expected marks decreasing as the status of the school increases. But more than twice as many of the total junior high pupils receive above expected marks as senior high pupils. Grading practices are similiar for the two ethnic groups in the lowest and the highest status schools, but in the middle schools Mexican-American pupils receive the bulk of the above expected marks.

The middle socioeconomic junior high school seems to differentiate its student body on the basis of ethnicity. On the one hand, it employs national universalistic criteria to measure the achievement of categories of pupils (usually Anglo) who are expected to complete high school and perhaps begin college. On the other, it employs local particularistic criteria for categories of pupils (usually Mexican-American) who are expected to drop from the system.

The achievement orientation, then, is most apparent in high socioeconomic status secondary schools. The fact that 40 percent of the pupils receive above expected social studies marks in the high status junior high school compared to 24 percent in the high status high school indicates that the junior high anticipates but does not attain measurement which is as objective as that of the senior high school. The concurrent observation that more rigid evaluation is applied to Mexican-Americans in high status senior than in junior high schools reflects the fact that failure to accurately assess academic attainment does not bring the same consequences from the external system to the lower level school.

The distribution of elementary school marks anticipates the pattern employed in the senior high where the majority of pupils receive marks in accord with their objective measures of ability. The distribution of marks for high socioeconomic elementary schools, like similar senior high schools, shows half of the pupils at expected level and the remainder divided equally between above and below expected level. At the middle and especially the low status elementary schools, there are considerably more above expected marks.

In summary, a dual system of grading within one school district is observed. First, a local, particularistic system credits the needs of pupil, teachers, and school in dealing with the discrepancy between real and expected learning. Second, a nonlocal, universalistic system credits the needs of the achieving society as instrumented through its educational institutions.

Particularistic norms are more frequently employed in the lower socioeconomic schools at the junior and the elementary levels, while universalistic norms are common to high socioeconomic schools at all levels. It seems clear that schools use those grading practices which are most functional to the destinations of their pupils. That is to say, for pupils who are allocated into academic programs which lead to higher education, the school employs universalistic achievement measures that carry common assumptions throughout the country. All other pupils are ascribed some amount of success--regardless of whether it is attained.

The anticipated and the real allocation of individuals by the school is influenced by its socioeconomic and ethnic qualities. Schools with high ethnic, low socioeconomic status student bodies utilize particularistic criteria, while schools with low ethnic, high socioeconomic status student bodies utilize the universalistic criteria. With a few exceptions, integrated schools usually adopt one of the two modes of evaluation. The first exception is the middle socioeconomic junior high where Mexican-American pupils are evaluated in the same manner as pupils from the low socioeconomic schools--Anglos in the same manner as pupils from high socioeconomic schools. The other exception is the high socioeconomic senior high school where the tendency toward universalistic criteria is reversed for Mexican-Americans who are evaluated more rigidly than any subpopulation in any of the other schools. This final check on the ability of Mexican-Americans before entering the achieving society places an additional obstacle between them and the good life which is easily available to Anglos with similar objective achievement.

With the recognition of the dual grading structure, the place of marks in the selecting and the allocating functions of the school becomes clearer. For allocation into higher status positions requiring academic preparation, universalistic criteria which can be used for competitive selection and which insure quality control are essential. For allocation into lower status positions requiring considerably less academic preparation, grade assignments can be used for managing tension which inevitably arises from achievement orientation. Pupils destined for lower status can be ascribed success without repercussions from the external system while the school maintains the pupil's image of achievement in his own eyes as well as in the eyes of his parents and friends. The school is also able to perpetuate its image as an effective agency of socialization. To some extent, this image of the school is a realistic one, considering the fact that these pupils have been allocated to positions which require little academic preparation. In order to prepare them for their future roles, the school is rightly concerned not with academic achievement but with developing adequate commitments and capacities in the pupils.

The grave dysfunction of particularistic grading is that it obscures the extent of the discrepancy between real and expected learning. Although ascription of minimal achievement reduces tension between the school and community, this tension could better be used for finding new ways to reduce the learning deficit. The professional action might be to give visibility to the learning deficiencies as they develop and to attack them at that level. We expect that teachers do understand the implication of grade ascription but lack the compensatory resources to deal with under-achievement. Teachers have little choice but to ascribe enough success to vacate the class for the next cohort. If minority and lower socioeconomic children are to have more equal opportunity to be selected for preferred positions, they must have more opportunity to acquire the knowledge and skills on which the allocation decisions are based.

School Grade-Level

In general, the relative academic achievement of Anglo and minority pupils falls into one of three patterns: development of "cumulative deficits" such that the discrepancy between Anglo and minority achievement increases with each grade-level, maintenance of "parity" such that the discrepancy between Anglo and minority achievement remains constant through the grade-level, and "equalization" of achievement such that the initial disadvantages of minority children are overcome during the school experience. Reading comprehension achievement at grade-levels six, nine, and twelve is examined in order to ascertain which of these patterns pertains to the Mexican-American and Anglo pupils in the district studied.

Variation in relative achievement of Mexican-American and Anglo pupils among the grade-levels does not support the concept of cumulative deficit (Table 44). In contrast to national observations of increasing educational deficits for minority children,[15] the data presented in Table 44 suggest that the pattern of parity and to some extent the pattern of equalization are more adequate. The discrepancy between this and other reports of educational outcomes for minority pupils may arise from the fact that many Mexican-American pupils lack initial English language skills. It may be that exposure to English and the consequent acquisition of language skills in school offsets some of the disadvantages which arise from minority status thereby, accounting for the higher comparative achievement.

In interpreting the fact that no cumulative deficits are found, one must consider the effect of exclusion from the sample due to drop-out. It is conceivable that many Mexican-American and Anglo pupils who leave the system have not fared well academically. If this were the case it would explain the dramatic rise in senior high reading comprehension means after the legal school-leaving age has been reached. Also, informal evidence suggests that many educationally disadvantaged children remove themselves from public school as early as the ninth grade,

TABLE 44

MEAN READING COMPREHENSION STANINE SCORES BY ETHNICITY AND SOCIOECONOMIC STATUS
Elementary and Secondary

	Anglo	Mexican-American	Difference
Elementary School			
Blue Collar	5.09	3.44	1.65
White Collar	5.57	4.04	1.53
Junior High School			
Blue Collar	4.90	3.85	1.32
White Collar	5.53	4.15	1.38
Senior High School			
Blue Collar	5.57	4.34	1.23
White Collar	6.43	4.70	1.73

thereby raising the junior high mean achievement as well and further obscuring the cumulative deficit.

In summation, parity is the most adequate of the three concepts to describe the effects of the school on Mexican-American achievement. The District is equally effective in socializing the Mexican-American and the Anglo pupils. A less conservative interpretation is that the District is approaching equalization--that it is more effective in socializing its Mexican-American than its Anglo pupils. This interpretation can be supported by the decrease in differences in mean achievement throughout successive grade levels for blue collar pupils and also by the decrease in differences of mean achievement between the elementary and junior high levels for white collar pupils. The addition of drop-out data might seriously undermine this view. The district studied, however, appears to be achieving better results in overcoming the initial disadvantages of Mexican-American pupils than popular critics tend to assume.

Affectivity Orientations

Mexican-American and Anglo pupils differ from one another not only in their scholastic achievement but also in their affectivity orientations.[16] These differences, indicated by responses to questionnaire items pertaining to attitudes, values, and opinions, occur at the three grade-levels with Mexican-American and Anglos most similar in the twelfth grade.

Consistently different at all grade-levels are the Mexican-Americans' more favorable orientation toward parental control of behavior and their greater concern for adult, as opposed to peer disapproval. Also consistently different are the Anglos' more optimistic orientation toward the future and their stronger disapproval of conflict resolution by force. Differences which occur at the sixth and ninth grades only are the Mexican-Americans' more expressive or positively charged emotional feeling toward school; different for the ninth grade alone is the Anglos' greater faith in human nature.

Variation in affectivity orientations between blue and white collar Mexican-American pupils is not as great as variation between Mexican-American and Anglo pupils. This variation by socioeconomic status is inversely related to grade-level so that Mexican-American pupils become more homogeneous, as well as more similar to Anglos, as they progress through school.

At the elementary level white collar pupils are differentiated from blue collar pupils by their less expressive attitude toward school, by their greater agreement with the formal norms of the school, by their more optimistic orientation toward the future, and by their higher faith in human nature. At the junior high level white collar pupils are differentiated from blue collar pupils by their higher faith in human nature and their more optimistic orientation toward the future. At the senior high level there are no significant differences in the affectivity orientation of the two groups.

Variations in affectivity orientations reflect differences in individual pupils due to the interaction of cultural factors derived from the family of origin with the experiences which are unique to each child alone. General theories of value imply that affectivity orientations are strongly related to achievement because they determine the individual's view of the world and of his own position in it. They determine:

1. the goals toward which his activity is directed
2. the activities which he sees as appropriate for the attainment of these goals
3. his perception of the feasibility of performing the activities necessary to achieve these goals
4. his perception of their ultimate attainability

The relationships between academic achievement and the affectivity orientation variables suggested by these functions are examined separately for Mexican-American and for Anglo pupils. The following variables are positively related to achievement for both ethnic groups: agreement with the formal goals of the school, low expressive orientation toward the school,[17] high faith in human nature, rational rather than forceful orientation toward conflict resolution, and an optimistic orientation toward the future.

Other affectivity orientations predict success only for Anglos, and still others, only for Mexican-Americans. For Anglos high self-esteem, enjoyment in taking charge of things, independence from the opinions of peers, and greater concern for adult rather than for peer disapproval all correlate with success. For Mexican-Americans, independence from family authority, concern for peer over adult disapproval, and independence from the opinions of peers are significant.

To summarize, achievement in the context of education requires at a minimum the following affectivity orientations toward school-related activity:

1. personal congruence with the goals toward which the school tasks are directed
2. rational rather than emotional orientation toward goal attainment activities
3. generalized confidence in mankind which allows for effective interpersonal relations in the instrumental activities of the school
4. optimistic definition of the life situation which includes the view that through personal activity, goals can be attained

Mexican-Americans with successful school careers are the deviant members of their subpopulation because of both their high academic achievement and their variant affectivity orientations. Pupils who are successful in their senior high school careers differ from their Mexican-American peers in their low expressive orientation toward school, their greater concern for peer rather than adult disapproval, and their optimistic outlook for the future. Successful junior high school pupils differ even more from their Mexican-American age-mates; for in addition to the variant orientations of twelfth grade achievers, they have higher faith in human nature and stronger opposition to forceful resolution of conflict.

The affectivity orientation pattern associated with Mexican-American success is not identical to that associated with Anglo success. The achieving Mexican-American differs from the achieving Anglo in that his orientation to family authority and his concern for peer disapproval are relevant to his school performance, but the comparable relevant consideration for the Anglo is his concern for adult disapproval.

One explanation for the difference between Mexican-American and Anglo goal-attaining values derives from the concept of anticipatory socialization contained in the theory of reference groups put forth by Merton and Kitt:

> the acquisition of values and orientations found in statuses and groups in which one is not yet engaged but which one is likely to enter . . .[18]

From this perspective the acquistion by Mexican-Americans of a futuristic and rational orientation to school is in part a result as well as a cause of school achievement. Since most members of this ethnic group who complete school with successful academic records enter higher status occupations than those of their parents, they have, in preparation for their future roles, internalized some of the dominant values of Anglo white collar pupils, particularly those which are functional for achievement.

In addition, most Mexican-Americans in twelfth grade, regardless of their academic success, have also acquired the Anglo values of greater faith in human nature and a more rational orientation toward conflict. Inasmuch as these are not the dominant orientations of junior high school Mexican-Americans, such values may be important for the status of "high school graduate." From a functionalist view the orientations which are dominant for senior high school but not junior high school Mexican-Americans may be necessary for minimal participation in the upper levels of the public school.

Merton also points out that although anticipatory socialization may be functional for the individual, "it is apparently dysfunctional for the solidarity of the group to which he belongs."[19] Here may be the explanation of the differences between Mexican-Americans and Anglos in the predictive power of their family orientations. The dominant cultural values of the Mexican-Americans do not include some orientations which are highly related to achievement, such as an optimistic orientation toward the future and a nonrational orientation to activity. By moving away from the strong influence of the family, which is a dominant Mexican-American institution, the pupil frees himself of the cultural ties which may inhibit his achievement. Moreover, being independent from family authority, the pupil is emotionally free to change his major reference groups and to acquire new values and behaviors.

The important influence of independence from family authority on upward mobility is illustrated in this inquiry by the finding that high achieving blue collar pupils are more independent of family than high achieving white collar pupils. This finding is consistent with the prediction that as a result of educational success, blue collar pupils will experience a greater change in status than white collar pupils. The greater concern for peer over adult disapproval by the successful Mexican-Americans also supports the contention that the upwardly mobile pupil is looking to different standards in setting his goals and choosing his activities.

Acculturation and social mobility are usually painful processes for the family of origin, and most Mexican-American families have not as yet been faced with this emotional wrench. Nevertheless, there are no ready alternatives to some form of cultural adaptation to the larger society. Failure of the Mexican-American to change some of his values implies aggravation of the already apparent grim consequences. Recognition, on the one hand, of the necessity for some acculturation, and on the other, of its destructive impact on the existing subculture is the first step in ameliorating the negative aspects of the transitional period.

SUMMARY ANALYSIS OF FACTORS RELATED TO ACHIEVEMENT

To determine whether or not the same factors explain variation in achievement for both ethnic groups and the extent to which these factors are similarly ordered, a series of stepwise multiple regressions of the achievement measures on variables of pupil and school characteristics was performed.[20] Although these questions have been partially answered in the preceeding discussion, the present analysis includes additional variables and examines their relationship to reading comprehension and I. Q. test scores at the three school levels.

These multiple regressions yield a number of pupil and school variables which make significant contributions to the prediction of achievement. Summaries of these variables and their contributions are presented in Table 45; the contributions of individual variables included in the multiple regressions are presented in Appendix B.

At the junior high level, the combination of all pupil and school variables accounts for 22 percent of the variance in the scores of Anglo pupils. For both ethnic groups, the educational level of the family makes a substantial contribution to the variance, although the contribution of family socioeconomic status is minimal. The contributions of pupil affectivity orientations are twice as large for Anglos as for Mexican-Americans but also substantial for both; teachers' grade expectations of the pupil

TABLE 45
EXPLAINED VARIANCE IN ACHIEVEMENT MEASURES BY PUPIL AND SCHOOL CHARACTERISTICS
Elementary and Secondary

Pupil and School Characteristics	Elementary				Junior High				Senior High			
	MA I.Q.	Reading Compre-hension	I.Q.	Anglo Reading Compre-hension	MA I.Q.	Reading Compre-hension	I.Q.	Anglo Reading Compre-hension	MA I.Q.	Reading Compre-hension	I.Q.	Anglo Reading Compre-hension
Family Socioeconomic Level	5.26%	.59%	1.48%	0%	.93%	.72%	1.88%	.52%	3.47%	2.80%	7.53%	3.67%
Family Educational Level	3.00	1.70	9.36	20.50	5.23	6.40	8.94	5.54	6.76	5.24	6.42	10.91
Affectivity Orientations	10.44	12.83	32.13	24.69	3.49	5.75	6.66	9.19	4.86	5.51	4.66	6.45
School Social Context	0	4.86	0	0	5.16	5.03	0	0	2.52	1.68	.31	0
Teacher Attitudes	0	0	0	0	1.07	3.44	1.76	4.36	8.42	6.06	18.98	1.25
Language Usage	3.69	1.61	1.20	0	3.48	.87	0	0	2.10	1.00	.93	.28
Pupil Age and Sex	0	0	0	0	.85	0	.62	0	.79	0	.65	.38
Influence of Peers	0	0	0	0	0	0	0	0	0	0	.84	0
Total Variance Explained	22.39%	21.59%	44.17%	45.19%	20.21%	22.21%	19.86%	19.61%	28.92%	22.29%	40.32%	22.94%

(as reported by the pupil) contribute in like manner for both groups. The school social context and language usage variables, which include the ethnic and the socioeconomic compositions of the school that the pupil attends and the extent of his use of English at home and with his friends, account for variance in Mexican-American but not in Anglo reading comprehension. None of the variables account solely for Anglo reading achievement.

At the senior high level the pupil and school variables explain about 23 percent of the variance in both Mexican-American and in Anglo reading comprehension scores. The sources of variation are similar to those at the junior high level: family education, which again explains more achievement than family socioeconomic level, makes twice as great a contribution for Anglo than for Mexican-American achievement; pupil affectivity orientations contribute equally and substantially for both, and the influence of teacher grade expectations is greater for Mexican-Americans; the school social context once more contributes uniquely, although minimally to Mexican-American achievement.

Pupil and school variables at the elementary school level explain 23 percent of the variance in reading comprehension performance for Mexican-Americans and 45 percent of the variance for Anglos. For the Mexican-American pupils, affectivity orientations account for the largest proportion of this variance; school context is next in importance, and family educational level and language usage each make a slight contribution. Only two variables, family educational level and affectivity orientations, account for the variance in the reading comprehension scores of Anglo pupils.

Focusing attention on I. Q. scores, equal amounts of the total variance are explained for Mexican-American and for Anglo pupils at the junior high school level--about 20 percent. At the senior high level, unlike the junior high, more of the total variance is explained; and the amount explained differs for the two ethnic groups--29 percent for Mexican-Americans and 40 percent for Anglos. Factors which predict I. Q. scores of junior high pupils are similar to those which predict their reading comprehension; educational level of the family, affectivity orientations, school social context, and language usage are the major influences. However, factors which predict I. Q. scores for senior high pupils differ from those which predict reading comprehension scores in that the teachers' grade expectations of the pupil makes a substantially greater contribution to I. Q.

The total variance explained in the I. Q. scores of elementary school pupils is similar to the amount explained in their reading comprehension scores. For Mexican-American pupils both measures are equally influenced by the affectivity orientations and the language usage variables. However, the I. Q. variables are more influenced by the family socioeconomic status and by the family educational level. The I. Q. of Anglo pupils is also influenced by affectivity orientations and by family socioeconomic and educational levels, but the education of parents is clearly more important for Anglo reading comprehension than for Anglo I.Q.

In summary, the following sources of influence on pupil performance are observed:

1. The most consistent and important influence is family educational level expressed primarily in parental aspirations for pupils educational attainment. This is apparent for both Mexican-American and Anglo pupils at all grade-levels.
2. Pupil attitudes and values are an important source of influence, again for both ethnic groups at all grade-levels.
3. The social context of the school contributes substantially to the performance of Mexican-Americans at the elementary and junior high levels and minimally at the senior high level. The performance of Anglo pupils is not appreciably affected by school context at any level.
4. Language usage, that is, the exclusive use of English, makes a consistently and positive contribution for Mexican-American pupils at all grade-levels.
5. Family economic level contributes less to the performance of both ethnic groups than does family educational level. This influence is considerably greater for Anglo than for Mexican-American pupils.

CONCLUSION

Several analyses of the data obtained from a survey of factors related to the achievement and aspirations of Mexican-American and Anglo sixth, ninth, and twelfth grade pupils sampled from schools of varying ethnic composition and socioeconomic levels have been presented. The major purposes of these inquiries were, first, to explain why the achievement and aspirations of Mexican-American pupils tend to be lower than those of Anglo pupils and, second, to determine the sources of influence on the absolute level of achievement and aspirations within each ethnic group.

Two different procedures, cross-tabulations and stepwise multiple regressions, were employed in these analyses. The cross-tabulations were used to compare and to explain differences in performance by the two groups. Under the control of selected variables, the relationships of possible determinants of the observed differences and some of their interconnections were examined. With evidence of the level of performance of the two groups and of the association of selected pupil and school factors to that level of performance, the second analysis was conducted to find out the strength of the association of these factors. For this analysis, the stepwise multiple regression, which facilitates the examination of the independent contributions of an extended set of variables and permits a summary of their total contribution, was used. The findings of the two analyses are essentially consistent and cumulative. Those findings of major interest with some of their implications are reported below.

The several measures of educational performance indicate that the average achievement of Mexican-American pupils is below the average achievement of Anglo pupils from similar socioeconomic background. Where national standards are available Mexican-American achievement at all grade-levels is substantially below the norm while Anglo achievement is at least equal to it.

A number of factors, including family socioeconomic and educational levels, affectivity orientations, and school-level, are related to achievement for both groups. Related only to the achievement of Mexican-American pupils are the use of the English language and the social context of the school. None of these factors adequately explain the difference between Mexican-American and Anglo test performances, however, for differences between the achievement of Mexican-American and Anglo pupils are substantially reduced only in comparisons of performance within one group of pupils--the junior high school white collar pupils--with controls for either home language or for school context. In all other comparisons by ethnicity made under control of selected variables, substantial differences in achievement prevail.

Ethnic differences also are found in pupils' educational and occupational aspirations and expectations. The proportion of Anglo pupils who aspire to education after high school is almost twice the proportion of Mexican-Americans with like aspirations.

Even so, in absolute terms, the aspirations of Mexican-Americans are much higher than public stereotype might suggest. Attributing the low achievement of Mexican-Americans to lack of motivation is probably incorrect.

Performance on intelligence has a substantial effect on ethnic differences in school marks and in achievement test performance. These differences can be explained by the large differences between Mexican-American and Anglo pupils as classified by I. Q. tests. In summation, achievement test performance explains ethnic variations in school grades and in educational and occupational aspirations; and general ability, as measured by I. Q. tests, explains ethnic variation in achievement. However, both of these measures are related to the same pupil and school characteristics.

Performance of Mexican-American pupils on reading comprehension and general ability tests appears with minor variation to be derived from the following sources:

1. family economic level, defined by size, family intactness, and length of residence in the urban community
2. family educational level, defined by parental aspiration for children's educational attainment, support through help with school work, and presence of educational materials in the home
3. family language--socialization to language by either of two patterns
    (a) initial acquisition of Spanish in a family of Mexican origin and subsequent acquisition of English in the school and the community or

(b) initial acquisition of English in an urban, American-born English-speaking family, with language acquisition later extended through peer influence[21]

4. attendance in integrated schools of medium to low ethnic density and medium to high socioeconomic levels

5. teachers' support expressed in expectations of high grade achievement

From the child's interaction within the contexts of family, community, and school, he also may derive value orientations consonant and supportive of school achievement, namely:

1. personal congruence with the goals toward which the school tasks are directed

2. rational, rather than emotional orientation toward goal attainment activities, indicated in this study by low orientation to expressive interest in school and strong disapproval of conflict by force

3. a generalized confidence in mankind which allows for effective interpersonal relations in the institutional climate of the school, indicated here by high scores on the Faith in Human Nature Scale

4. an optimistic definition of the general life situation, which includes the view that through personal activity, goals can be attained, indicated here by high scores on the Futuristic Orientation Scale

The implication of these findings is that those Mexican-American pupils who have been most thoroughly socialized to the dominant American culture are the highest achievers. But to conclude that an educational program which maintains bi-cultural emphasis cannot be effective for Mexican-American pupils is not necessarily accurate. As a matter of fact, the small sample of pupils from all Mexican-born families achieve at higher levels than the other Mexican-American pupils from all American-born families. The important questions of language introduction and transition, both in the family and in school experiences, are not adequately answered by this study. Obviously, however, a much greater emphasis on language development will be necessary if Mexican-American pupils are to achieve at more adequate levels. Rather than direct undue attention toward the question of language, it should be emphasized that achievement results essentially when family values and school contexts are mutually supportive. The influence of school context on test performance is substantial for both elementary and junior Mexican-American pupils and is slight for senior high pupils; Anglo achievement appears to be not greatly influenced at any level by school context.

No differences are found in school marks by school context at any of the three grade-levels. The discrepancy between achievement test performance of Mexican-American pupils and marks given them by teachers within the three school types indicates that the individual schools make internal adaptations in norms of evaluation. Ascribed grade rewards, in which marks are distributed unrelated to real performance, make possible an adjustment by the local school to the universalistic achievement test norms employed system-wide. The implication of this adaptation is that there is a drastic accounting at higher grade-levels and that the probable result is that those pupils for whom there has been the greatest discrepancy between marks and real performance are defined as academic failures and selected as "drop-outs."

The processes of competitive selection result in increasing homogeneity within and between ethnic groups. This fact is illustrated by the decrease in differences in achievement at successive grade-levels. The finding that differences between the two ethnic groups become progressively smaller with each grade-level can be interpreted as an indication that the schools, at the very least, are able to maintain parity between the achievement of its Mexican-American and its Anglo pupils. This finding is contrary to that of the Coleman report, which describes Mexican-American pupils with progressively greater deficits at higher grade-levels. It must be noted, however, that the increased homogeneity observed in the present study may result more from the elimination of low achieving pupils through drop-out than from the effects of school socialization.

Loss of pupils is most apparent between the ninth and twelfth grades. Although some drop-out occurs between the sixth and ninth grades, the higher achievement of junior high pupils over elementary pupils probably is related to increased proficiency in English. Since higher achievement of Mexican-Americans in senior high school may result largely from selection through drop-out and since the absolute levels of their achievement are substantially below those of Anglo pupils, the burden upon the school remains formidable.

FOOTNOTES

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William L. Kimball, "Parent and Family Influences on Academic Achievement of Mexican-American Students," Ed. D. Dissertation, UCLA, University Microfilms, Ann Arbor, Michigan, 1968, which analyzes the influence of family and related background factors on the achievement of junior high Mexican-American and Anglo pupils.

Audrey James Schwartz, "Affectivity Orientations and Academic Achievement of Mexican-American Youth," Ed. D. Dissertation, UCLA, University Microfilms, Ann Arbor, Michigan, 1967, which explores the nature and the extent to which Mexican-American and Anglo junior and senior high school pupils differ from one another in value orientations and in academic success and the relationship between value orientations and academic success for both groups.

Gordon Everett Stanton, "Social Class Influences on Urban Adolescent Involvement with High School Voluntary Associations," Ed. D. Dissertation, UCLA, University Microfilms, Ann Arbor, Michigan, 1967, which examines the relationship of ethnic and socioeconomic factors to the participation of senior high Mexican-American and Anglo pupils in voluntary associations in and out of school.

Robert Wenkert, "Outline of Analysis and Achievements and Aspirations of Mexican-American Secondary School Students," Mexican-American Study Project, Mimeograph, UCLA, 1967, which is a preliminary report comparing educational aspirations and achievement of Mexican-American and Anglo youth in sixth, ninth, and twelfth grades.

[2] Talcott Parsons, "The School Class as a Social System; Some of Its Functions in American Society," Harvard Educational Review, XXIX (No. 4, 1959), 297-318.

[3] Ibid., 299.

[4] Paul M. Sheldon, "Mexican-Americans in Urban Public Schools: An Exploration of the Drop-Out Problem," California Journal of Educational Research, XXII (January 1961); California Advisory Committee to the U. S. Commission on Civil Rights, "Education and the Mexican-American Community in Los Angeles County," April, 1968, p. 3.

[5] See:

Richard P. Boyle, "The Effect of the High School on Students' Aspirations," American Journal of Sociology, LXXI (May, 1966), 628-39.

William H. Sewell and J. Michael Armer, "Neighborhood Context and College Plans," American Sociological Review, XXXI (April, 1966), 159-68.

John A. Michael, "High School Climates and Plans for Entering College," The Public Opinion Quarterly, XXV (Winter, 1961), 585-94.

William H. Sewell and Vimal P. Shah, "Socioeconomic Status, Intelligence, and the Attainment of Higher Education," Sociology of Education, XL (Winter, 1967), 1-23.

William H. Sewell, "Community of Residence and College Plans," American Sociological Review, LXIX (February, 1964), 24-38.

Alan B. Wilson, "Residential Segregation of Social Classes and Aspirations of High School Boys," American Sociological Review, XXIV (December, 1959), 836-45.

James S. Coleman, et al., Equality of Educational Opportunity (Washington, D. C.: U. S. Government Printing Office, 1966).

[6] A lively critical exchange centers upon those studies concerned with evidence for the contextual finding and the analysis and interpretation of data. See:

Ralph Turner, et al., "Communications," American Sociological Review, XXXI (October, 1966), 698-707.

William H. Sewell, "Neighborhood Context and College Plans," American Sociological Review XXXI, (October 1966), 159-168.

Henry M. Levin, "What Difference Does School Make?", Saturday Review, January 20, 1968, 57-67.

Critique of Coleman Report and the Levin-Coleman exchange, Letters to the Education Editor, Saturday Review, February 17, 1968.

[7] For a discussion of the sources of influence in educational systems on constraints toward uniform and toward divergent standards, see Boyle.

[8] C. Wayne Gordon and Leta McKinney Adler, "Dimensions of Teacher Leadership in Classroom Social Systems," (Los Angeles: University of California, Department of Education, 1963). This study found wide variations in the educational effects on pupils in relation to modes of teacher leadership in self-contained classrooms.

[9] Coleman, pp. 274-75.

[10] *Ibid.*, p. 275.

[11] See Appendix A for a discussion of the sample. For another more detailed description and evaluation of the school samples with a related discussion of the conditions and problems constraining data collection in a large city school district, see Schwartz, pp. 13-47.

[12] This measure was constructed by computing a mean stanine score for each pupil. The stanine scores for each component of the tests discussed were added together, and the sum was divided by the number of scores available.

[13] We do know, however, that home language is related to educational aspirations of Mexican-American pupils. For example, 13 per cent more of the junior high school white collar children from English-speaking than from Spanish-speaking homes aspire to further education after high school.

[14] Alan Wilson, "Sex Differences in Education," Mimeograph, University of California, Berkeley, April, 1966.

[15] Coleman, *et al.*, pp. 274-75.

[16] This summary draws heavily from the concluding chapter of Schwartz, op. cit. For a description of the affectivity scales and indices see the full report.

[17] This does not hold for Mexican-American elementary pupils nor for Mexican-American junior high pupils who have high expressive and high instrumental views of school attendance. This combination of orientations appears to be the most functional for the school achievement of these pupils.

[18] Robert K. Merton, Social Theory and Social Structure (London: The Free Press, 1957), p. 284.

[19] *Ibid.*, p. 260.

[20] The analyses were generated by the "BMDO2R Stepwise Multiple Regression" program. See W. J. Dixon (Ed.), BMD: Biomedical Computer Programs (Los Angeles: University of California Press, 1967).

[21] Least positive for achievement is the initial acquisition of Spanish in families of short-time residence in which one or both parents are born in the United States.

APPENDIX A

The Sample

The sample for this inquiry included equal proportions of Mexican-American and Anglo pupils enrolled in the schools of the Los Angeles Metropolitan School District. The selection of schools took into account the socioeconomic status and the ethnic composition of their student populations as well as their geographical location. Much of this information was supplied by materials based on the 1960 census dealing with the ethnic density and the socioeconomic status of the census tracts serviced by each of the District's 560 school units.* District personnel, especially those in the Office of Urban Affairs, supplied additional information about recent changes in student body composition.

Twenty-three schools were chosen deliberately as sampling units. Non-probability selection techniques were preferred over random techniques for several important reasons:

1. Random sampling throughout the District would have included schools in which few Mexican-American pupils are enrolled, thereby loading the sample with a disproportionate number of Anglo pupils.

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*See Eshrif Shevky and Wendell Bell, Social Area Analysis. (Stanford: Stanford University Press, 1955), for the social rank index employed as a measure of school socioeconomic status; see Vincent I. Correll, Jr., "Effect of School District Size Upon Public Interest in Schools," unpublished Ed. D. Dissertation, University of California, Los Angeles, 1963, for the social rank index of each census tract. For a more detailed description of sample selection, see Schwartz, op. cit.

2. The District requested that as few school units as possible be sampled and that the total number of pupils surveyed be restricted to 4,500. To gain access to pupils in schools with the desired socioeconomic status and ethnic densities, school units would have to be selected with care.
3. Analytic advantages can be derived from choosing elementary, junior, and senior high schools from the same geographic areas of the District.

The social rank and the ethnic density of the schools selected are presented in Table A-1.

The method of selecting pupils from the sixth, ninth, and twelfth grade classes within the school units was strongly influenced by District policy. The following conditions were stipulated: (a) questionnaires are to be administered to entire classrooms of pupils rather than to randomly selected individuals, (b) data collection in any one school is to be completed in a single day, and no provisions are to be made for a later survey of pupils who were absent on that day, and (c) signed parental consent forms are to be received from pupils prior to the administration of questionnaires and the collection of data from cumulative record files.

The classes in which questionnaires were administered had been randomly selected from mandatory State or District courses. This gave each pupil at the desired grade level an equal chance

TABLE A-1

SAMPLED SCHOOLS BY SOCIAL CONTEXT WITH SOCIOECONOMIC AND ETHNIC DATA

School Type	Shefky-Bell School Social Rank	Mean SES Level of School Sample	Socioeconomic Rank Order of sample	Percent Anglo school census	Percent Anglo Rank Order of sample	% Spanish Surname Rank Order of sample
			ELEMENTARY			
Low Ethnic, High SES						
A	19.7	2.07	1	60	1	8.5
B	14.1	2.17	2	27	3	8.5
C	17.0	2.04	4	12*	8	7
D	18.5	1.86	3	46	2	10
Medium Ethnic, Medium SES						
E	5.8	1.58	5	25	6	5
F	9.0	1.65	6	4	7	3
G	8.3	1.52	7	13	5	4
H	4.9	1.59	8	13	4	6
High Ethnic, Low SES						
I	1.0	1.24	9	1	9.5	1.5
J	1.0	1.24	10	1	9.5	1.5
			JUNIOR HIGH			
Low Ethnic, High SES						
A	18.1	2.47	2	63	1	7.5
B	10.4	2.48	1	56	2	6
C	10.4	2.27	3	53	3	5
Medium Ethnic, Medium SES						
D	8.9	2.23	4	35	5	7.5
E	8.4	2.15	5	32	4	4
High Ethnic, Low SES						
F	5.5	1.84	6	4	6	3
G	5.0	1.66	8	4	7	2
H	2.8	1.73	7	1	8	1

TABLE A-1 continued

SAMPLED SCHOOLS BY SOCIAL CONTEXT WITH SOCIOECONOMIC AND ETHNIC DATA

			SENIOR HIGH			
School Type	Shefky-Bell School Social Rank	Mean SES Level of School Sample	Socioeconomic Rank Order of sample	Percent Anglo school census	Percent Anglo Rank Order of sample	% Spanish Surname Rank Order of sample
Low Ethnic, High SES						
M	18.5	3.23	1	65	1	5
Medium Ethnic, Medium SES						
N	11.4	2.05	3	47	2	4
O	11.3	2.03	4	34	3	3
High Ethnic, Low SES						
P	8.7	2.06	2	3	4	2
Q	5.4	1.67	5	5	5	1

* The official school census reports 51% Oriental pupils for this school.

to be represented in the sample. In anticipation of sample loss through pupil absence and through lack of parental consent, additional classes were added to the sample. Data collection was most successful in the sixth grade, where the return rate was 82 percent. By comparison, the rates were 71 percent at the ninth grade level and 59 percent at the twelfth grade level. There is also considerable variation in the rates of different schools, especially among the high schools.

From field observations it seems fair to conclude that return rates stem primarily from the amount of effort expended by principals and teachers in asking pupils to have their parents sign the consent forms. Among the high schools and, to a lesser extent, among the elementary schools, there is a relation between the size of the school and the return rates--the bigger the school, the lower the rate. This situation points to difficulties of administrative coordination at the larger schools. It is also true that individual teachers differed in the extent to which they stressed the return of parental consent forms.

Inasmuch as the schools studied were not selected by random or probability techniques, as was also true of some aspects of the pupil selection process, the data collected for this inquiry cannot be extended to the entire Mexican-American and Anglo pupil populations of the Los Angeles Metropolitan School District with total confidence. On the other hand, the Mexican-American and Anglo samples appear to be similarly affected by any biases which the pupil selection process might have engendered. Secondly, these data can be used in all confidence for comparing the different subpopulations of pupils, and this is the principal way in which they have been used in this report.

School Indices

Two sets of indices were developed to classify the schools. One, the socioeconomic measure, was created from the Shevky-Bell Social Rank Index and from the mean socioeconomic level of the sample obtained from each school. Pupil socioeconomic level was derived from the occupational prestige rank of the main support of the family. These ranks range from one, lower blue collar, to five, upper white collar.

The other index, the ethnic density measure, was created from official school data pertaining to the ethnic composition of each school and the ethnic distribution of the sample obtained from each school. Schools with over 50 percent Anglo pupils are coded "Low Ethnic," those with over 30 percent are coded "Medium Ethnic," and the others are coded "High Ethnic." These data are reported in Table A-1.

The relationship between the school socioeconomic status measures and the ethnic density measures should be noted. For most schools there is a perfect inverse relationship between the two so that the low ethnic density schools are also schools of high socioeconomic status, the medium ethnic density schools have medium socioeconomic status, and the high ethnic density schools have low socioeconomic status.

It also should be noted that schools classified as high socioeconomic status are high only in comparison with other schools in the sample. For example, the school with the highest status has a mean SES score of 3.23, which indicates that the parents of its student body tend toward lower white collar occupations. Had this school been compared with schools typically populated by children from professional and upper white collar homes, it would have been classified differently. The school SES Type, then, tells its position only among the schools sampled and implies nothing about its position in a larger universe of schools.

APPENDIX B

MULTIPLE REGRESSION TABLES FOR SUMMARY ANALYSIS OF FACTORS RELATED TO ACHIEVEMENT

TABLE B-1

UNIQUE CONTRIBUTION OF PUPIL AND SCHOOL CHARACTERISTICS TO THE VARIANCE IN PUPIL ACHIEVEMENT MEASURES--READING COMPREHENSION
Secondary Schools

	Junior		Senior	
Pupil and School Characteristics	MA	Anglo	MA	Anglo
A. Family Socioeconomic Level				
Mother Lives in Home	-	-	.0022	-
Father Lives in Home	-	-	.0080	-
Length of Family Residency in Los Angeles	.0050	-	.0050	-
Number of Siblings	.0022	-	.0061	.0053
Number of Different Schools Attended	-	-	.0067	-
Family SES Index	-	.0052	-	.0314
Total	.0072	.0052	.0280	.0367
B. Family Educational Level				
Parents' Grade Expectations of Pupil	.0020	-	-	.0787
Parents' Educ. Aspirations for Pupil	.0565	.0159	.0247	.0087
Amount of Adult Homework Help	.0055	.0190	.0072	.0047
Dictionary in the Home	-	-	-	.0029
Amount of Educ. of Mother	-	.0205	.0077	.0041
Prop. Relatives/Parents Friends Gone to College	-	-	-	.0068
English Newspaper in the Home	-	-	-	.0032
Encyclopedia in the Home	-	-	.0128	-
Total	.0640	.0554	.0524	.1091

TABLE B-1 continued

UNIQUE CONTRIBUTION OF PUPIL AND SCHOOL CHARACTERISTICS TO THE VARIANCE IN PUPIL ACHIEVEMENT MEASURES--READING COMPREHENSION
Secondary Schools

	Junior		Senior	
Pupil and School Characteristics	MA	Anglo	MA	Anglo
C. Affectivity Orientations				
Faith in Human Nature Scale	.0304	.0058	.0098	-
Occupational Values--Social	.0115	-	.0021	.0029
Occupational Values--Reward	-	.0098	-	-
Independence from Peers	-	-	.0015	-
Index of Self-Esteem	.0032	-	-	.0044
Idealized School Goals	.0053	-	.0027	.0035
Futuristic Orientation	.0071	.0763	.0210	.0430
Expressive Orientation	-	-	.0033	-
Orientation to Family Authority	-	-	.0147	.0107
Total	.0575	.0919	.0551	.0645
D. School Social Context				
School Ethnic Composition	-	-	.0168	-
School Socioeconomic Composition	.0503	-	-	-
Total	.0503	0	.0168	0
E. Teacher Attitudes				
Teachers' Grade Expectations of Pupil	.0344	.0436	.0606	.0125
Total	.0344	.0436	.0606	.0125
F. Language Usage				
Language Most Spoken in Home	.0034	-	-	.0028
Proportion of Friends who Speak Spanish	.0053	-	.0100	-
Total	.0087	0		
G. Pupil Characteristics				
Sex	-	-	-	.0038
Total	0	0	0	.0038
H. Influence of Peers				
Total	0	0	0	0
(r^2) Total Proportion of Variance Explained	.2221	.1961	.2229	.2294
Sample Size	(889)	(558)	(667)	(473)
Multiple Correlation Coefficient	0.4713	0.4428	0.4721	0.4790
Standard Error of Estimate	1.3028	1.2919	1.4587	1.4449

TABLE B-2

UNIQUE CONTRIBUTION OF PUPIL AND SCHOOL CHARACTERISTICS TO THE VARIANCE IN PUPIL ACHIEVEMENT MEASURES--I.Q.

	Junior		Senior	
Pupil and School Characteristics	MA	Anglo	MA	Anglo
A. Family Economic Level				
Mother Lives at Home	.0058	.0118	.0027	.0061
Father Lives at Home	-	-	.0053	.0021
Length of Family Residency in Los Angeles	.0020	.0033	-	.0062
Number of Siblings	.0015	-	.0169	-
Number of Different Schools Attended	-	.0037	.0066	-
Longest Pupil Residency (Rural-Urban)	-	-	.0032	.0019
Family Socioeconomic Status	-	-	-	.0590
Total	.0093	.0188	.0347	.0753
B. Family Educational Level				
Parents' Grade Expectations of Pupil	-	-	.0037	.0137
Parents' Educational Aspirations for Pupil	.0380	.0517	.0418	.0341
Amount of Adult Homework Help	.0111	.0223	.0100	.0073
Dictionary in the Home	.0032	.0069	-	-
Amount of Education of Mother	-	.0085	.0121	-
Relatives and Parents' Friends with College Education	-	-	-	.0091
Total	.0523	.0894	.0676	.0642
C. Affectivity Orientations				
Faith in Human Nature Scale	.0156	.0187	.0092	-
Occupational Values--Social	.0045	-	-	-
Occupational Values--Reward	.0020	.0059	-	.0064
Independence from Peers Scale	.0020	.0041	-	-
Index of Self-Esteem	.0070	-	-	.0055
Index of Idealized School Goals	.0015	-	-	-
Instrumental Orientation	.0023	-	.0043	-
Futuristic Orientation	-	.0346	.0175	.0149
Expressive Orientation	-	.0033	.0019	-
Orientation to Family Authority	-	-	.0157	.0198
Total	.0349	.0666	.0486	.0466

TABLE B-2 continued

UNIQUE CONTRIBUTION OF PUPIL AND SCHOOL CHARACTERISTICS TO THE VARIANCE IN PUPIL ACHIEVEMENT MEASURES--I.Q.

	Junior		Senior	
Pupil and School Characteristics	MA	Anglo	MA	Anglo
D. School Social Context				
School Ethnic Composition	-	-	.0252	.0031
School Socioeconomic Composition	.0516	-	-	-
Total	.0516	0	.0252	.0031
E. Teacher Attitudes				
Teachers' Grade Expectations of Pupil	.0107	.0176	.0842	.1898
Total	.0107	.0176	.0842	.1898
F. Language Usage				
Language Most Spoken at Home	.0093	-	.0210	.0054
Proportion of Friends who Speak Spanish	.0255	-	-	.0039
Total	.0348	0	.0210	.0093
G. Pupil Characteristics				
Age	.0056	.0062	.0079	.0040
Sex	.0029	-	-	.0025
Total	.0085	.0062	.0079	.0065
H. Influence of Peers				
Proportion of Friends with High Educational Aspirations	-	-	-	.0084
	0	0	0	.0084
(r^2) Total Proportion of Variance Explained	.2021	.1986	.2892	.4032
Sample Size	(899)	(558)	(667)	(473)
Multiple Correlation Coefficient	0.4496	0.4457	0.5378	0.6350
Standard Error of Estimate	1.1468	1.1062	1.0315	1.2169

TABLE B-3

UNIQUE CONTRIBUTION OF PUPIL AND SCHOOL CHARACTERISTICS TO THE VARIANCE IN PUPIL ACHIEVEMENT MEASURES--I.Q. AND READING COMPREHENSION

Elementary School

	I.Q.		Reading Comprehension	
Pupil and School Characteristics	MA	Anglo	MA	Anglo
A. Family Socioeconomic Level				
Mother Lives at Home	.0432	-	-	-
Number of Different Schools Attended	.0094	-	-	-
Length of Family Residency in L.A.	-	.0148	.0059	-
	.0526	.0148	.0059	0
B. Family Educational Level				
Amount of Education of Father	.0116	-	.0170	.0405
Amount of Education of Mother	.0079	-	-	-
Dictionary in the Home	.0105	-	-	.0125
Parents' Grade Expectations of Pupil	-	.0804	-	.0518
Encyclopedia in the Home	-	.0132	-	.0520
Parents Educational Aspirations for Pupil	-	-	-	.0482
Total	.0300	.0936	.0170	.2050
C. Affectivity Orientations				
Good Fight Best Way to Settle Arguments	.0343	-	.0124	-
Usually Enjoy Classes at School	.0084	.0279	-	-
Pupil's Educational Aspirations	.0086	.0274	.0204	.0752
Main Enjoyment of School is Friends	.0141	.0500	.0097	.0299
Parents Should Not Disallow Seeing Friends, Even if they Disapprove	.0097	-	-	-
Doing Schoolwork Makes Future Easier	.0177	-	.0570	-
School Will Not Help Future	.0062	.0154	-	-
Generally Like School	.0054	-	.0057	.0224
Would Not Mind Being Thought "Oddball"	-	.0171	-	-
School Will Not Help Get Better Job	-	.0993	-	.0486
Rather Be Someone Different Than Self	-	.0376	-	-
Times When Think I'm No Good at All	-	.0113	-	.0128
How Important to Get Good Grades	-	.0192	-	.0135

TABLE B-3 continued

UNIQUE CONTRIBUTION OF PUPIL AND SCHOOL CHARACTERISTICS TO THE VARIANCE IN PUPIL ACHIEVEMENT MEASURES--I.Q. AND READING COMPREHENSION

Elementary School

Pupil and School Characteristics	I. Q.		Reading Comprehension	
	MA	Anglo	MA	Anglo
People Should Not Expect Too Much of Life So They Will Not Be Disappointed	-	.0161	-	.0312
Most People Help Others Before Selves	-	-	.0092	-
Never Act Only for Esteem from Others	-	-	.0074	-
Teacher Usually Right, Even when Punishing entire class	-	-	.0065	-
Children Should Obey All Parents' Rules	-	-	-	.0133
Total	.1044	.3213	.1283	.2469
D. School Social Context				
School Socioeconomic Composition	-	-	.0486	-
	0	0	.0486	0
E. Teacher Attitudes				
Total	0	0	0	0
F. Language Usage				
Proportion of Friends who Speak Spanish	.0369	-	-	-
You Speak Spanish	-	.0120	-	-
Language Most Spoken in Home	-	-	.0161	-
Total	.0369	.0120	.0161	0
G. Pupil Characteristics				
Total	0	0	0	0
H. Influence of Peers				
Total	0	0	0	0
(r^2) Total Proportion of Variance Explained	.2239	.4417	.2159	.4519
Sample Size	(286)	(96)	(286)	(96)
Multiple Correlation Coefficient	0.4732	0.6646	0.4647	0.6722
Standard Error of Estimate	1.6311	1.5666	1.4786	1.4598